OSC THEISEN
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224/16

WESTON SM MANAGERS DESIGNERS/CONSULTANTS
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Chicago, IL 60606 • (312) 993-1067 • FAX (312) 993-0226

TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

Mr. Duane Heaton
Deputy Project Officer
Emergency Support Section, 5HS-11
U.S. Environmental Protection Agency
230 South Dearborn St.
Chicago, Illinois 60604

February 7, 1990

TAT-05-G2-01624

Re: Accra-Pac PRP Monitoring
TDD# 5-8903-15

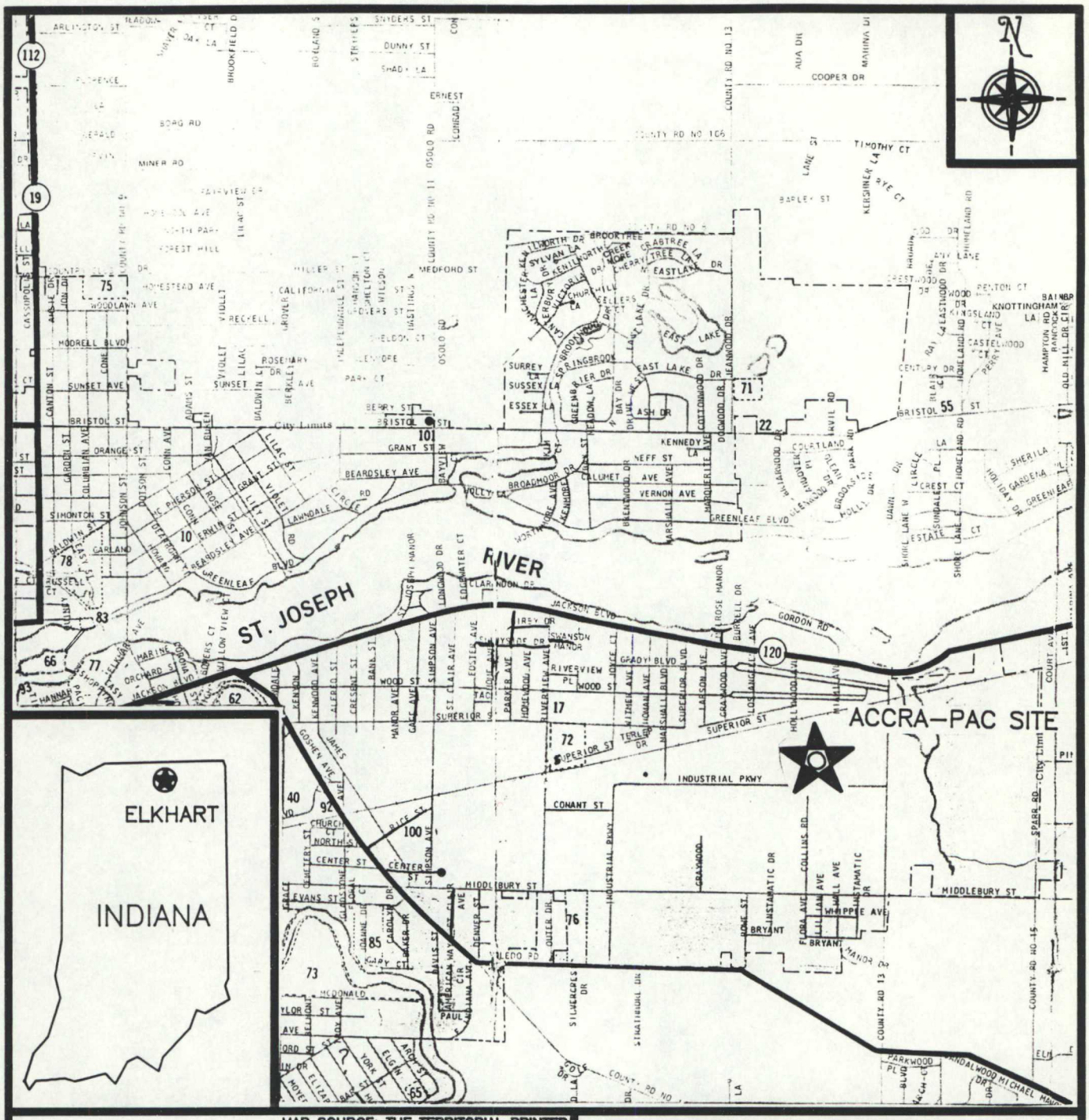
Dear Mr. Heaton:

On March 20, 1989, the United States Environmental Protection Agency (U.S. EPA) tasked the Technical Assistance Team (TAT) to provide Potentially Responsible Party (PRP) monitoring at the Accra-Pac site in Elkhart, Indiana (Figure 1). Specifically, the TAT was tasked to document PRP activities, collect duplicates of PRP samples for quality assurance/quality control (QA/QC), and prepare weekly U.S. EPA On-Scene Coordinator (OSC) status reports consisting of summarized site activities, TAT analytical results, and projected site activities.

TAT conducted weekly inspections of the Accra-Pac site from April 10 to June 2, 1989. During these inspections, TAT obtained PRP well logs, boring logs, and air monitoring data. In addition, TAT collected QA/QC samples and photodocumented PRP activities (Attachment A). TAT prepared weekly status reports, which included the assembled information (Attachment B).

Although four monitoring wells existed at the Accra-Pac site, three additional monitoring wells and 25 soil borings were completed during the 8-week field investigation to accurately determine the vertical and horizontal extent of volatile organic compound (VOC) contamination at the site (Figure 2). Soil and ground water samples were collected from each soil boring and monitoring well at 1.5-ft and 4-ft intervals, respectively. EIS Environmental Engineers, Inc. (EIS) also measured head-space readings for each sample with a photoionization detector (HNU) equipped with an 11.7 eV probe.

From April 10 to June 2, 1989, TAT collected a total of 18 split soil and ground water samples, which were analyzed for volatile organic compounds by WESTON-Gulf Coast Laboratories, Inc., under Analytical Services TDD#5-8904-L02. Samples were collected and analyzed to provide a QA/QC control check of EIS analytical procedures; sample locations are indicated on Figure 3.



MAP SOURCE: THE TERRITORIAL PRINTER

FIGURE 1

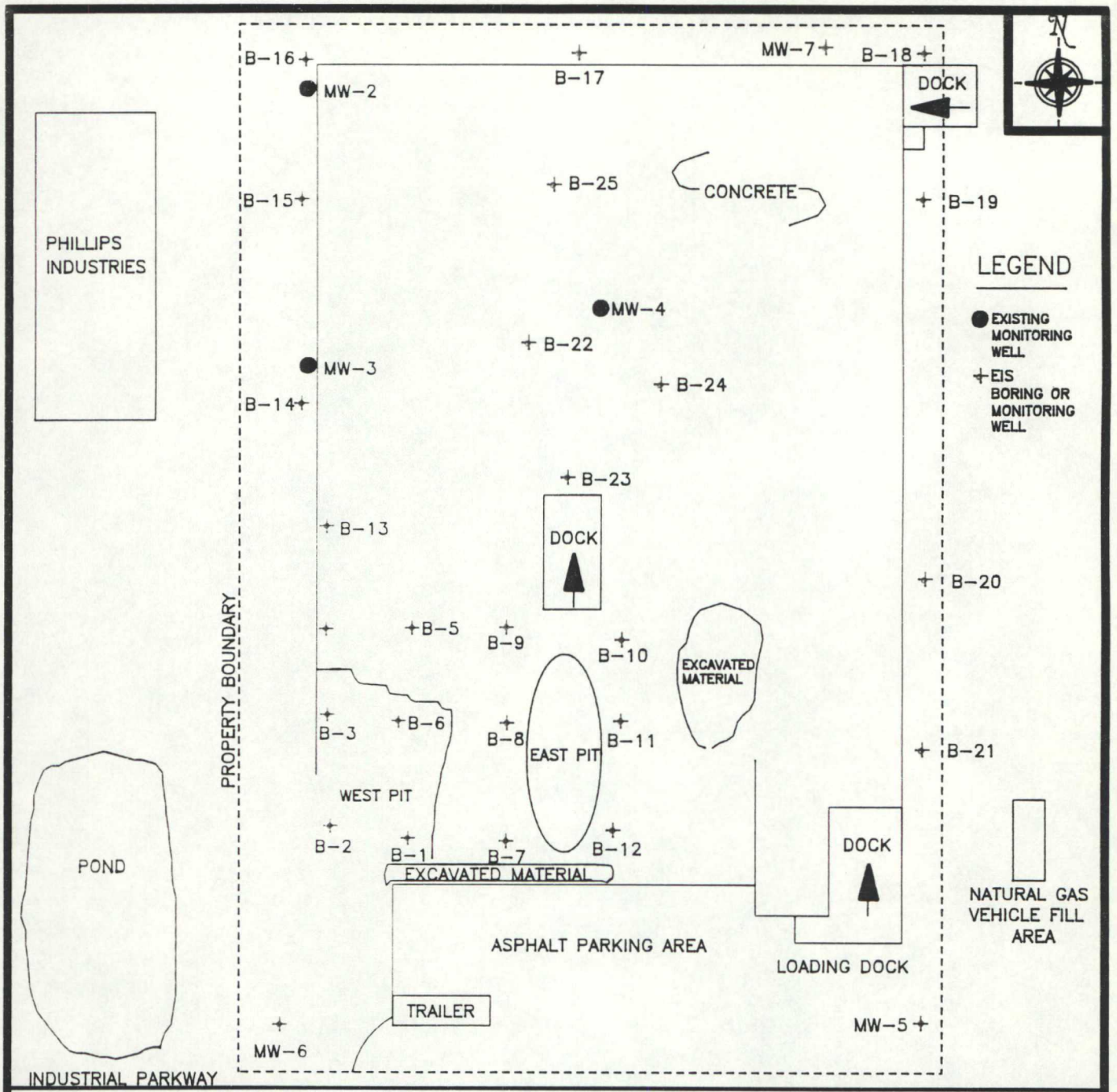
SITE LOCATION MAP

ACCRA–PAC SITE

ELKHART, INDIANA

WESTON MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY J. BINKLEY	DATE 05–03–89	PCS # 2174
APPROVED BY S. JANSEN	DATE 05–03–89	TDD # 5–8903–15



MAP SOURCE: ADAPTED FROM EIS ENVIRONMENTAL ENGINEERS, INC. WORK PLAN

FIGURE 2

SITE MAP

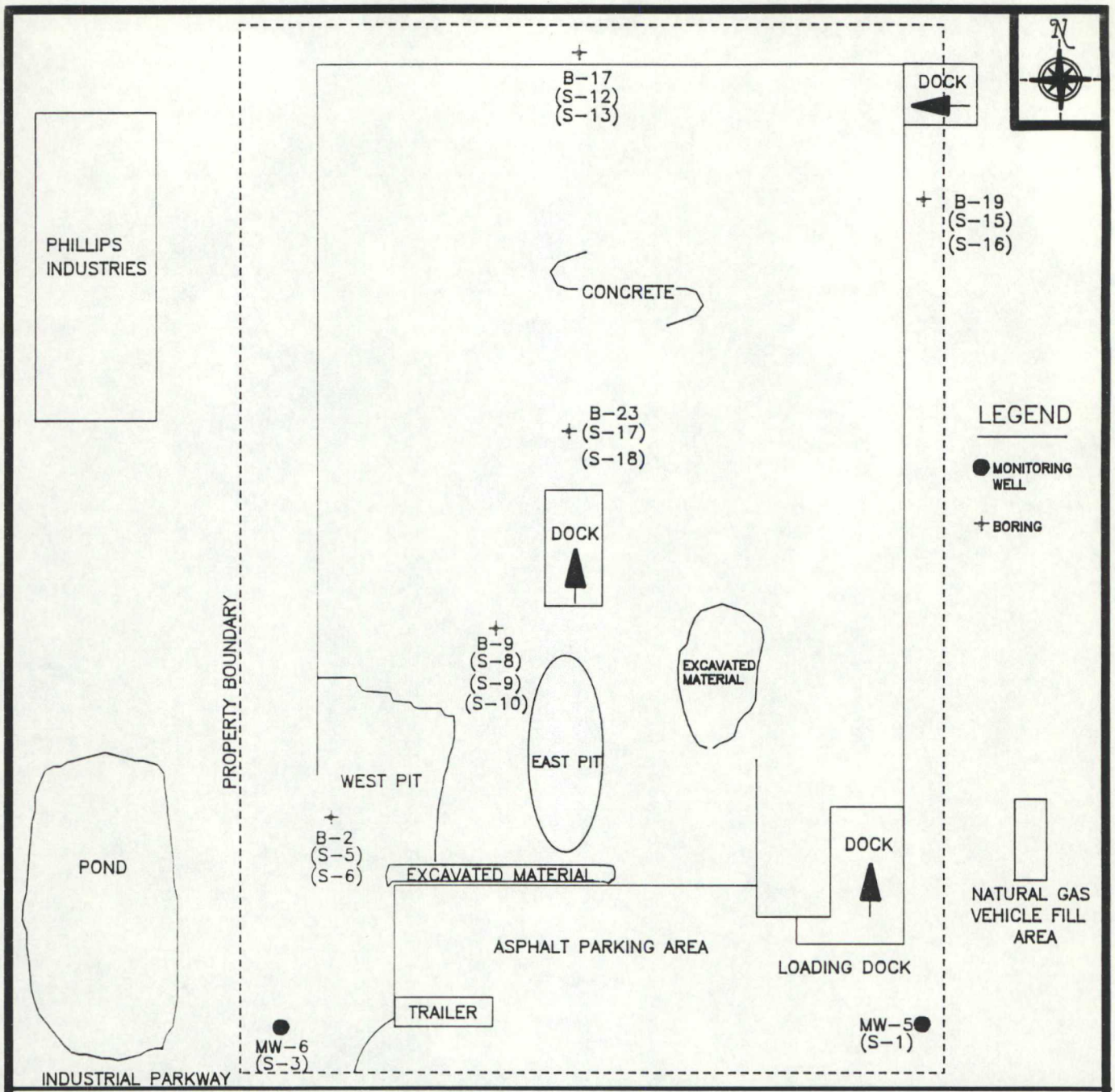
ACCRA-PAC SITE

ELKHART, INDIANA

APPROXIMATE SCALE 1 INCH = 50 FEET

WESTON MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY	DATE	PCS #
J. BINKLEY	05-03-89	2174
APPROVED BY	DATE	TDD #
S. JANSEN	05-03-89	5-8903-15



MAP SOURCE: ADAPTED FROM EIS ENVIRONMENTAL ENGINEERS, INC. WORK PLAN

FIGURE 3

TAT SAMPLE LOCATIONS

ACCRA-PAC SITE

ELKHART, INDIANA

APPROXIMATE SCALE 1 INCH = 50 FEET

WESTON

MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY	DATE	PCS #
J. BINKLEY	05-03-89	2174
APPROVED BY	DATE	TDD #
S. JANSEN	05-03-89	5-8903-15

A Contract Laboratory Program Data Package, which accompanied the analytical results, was also reviewed by TAT Sample Management.

Of the 18 samples TAT collected, 9 were water samples from two monitoring well locations and three borehole locations at the Accra-Pac site. Analytical results of the water sampling are presented in Table 1, and Table 2 presents a comparison between water sample VOC concentrations and Removal Action Level (RAL) concentrations required to qualify a site for a removal response. The RAL concentrations were established by the U.S. EPA Office of Emergency and Remedial Response and are intended for use at contaminated drinking water sites. (Action level concentrations are presented in U.S. EPA Office of Solid Waste and Emergency Response Directive 9360.1-10.)

The RAL for 1,1,1-trichloroethane (TCA) [500 ppb (parts per billion)] was exceeded in water samples collected from all five sampling locations. The RAL for 1,2-dichloroethene (DCE) (175 ppb) was exceeded in water samples collected in four of the five locations. In addition to the elevated concentrations of TCA and DCE in the water samples, the RALs for tetrachloroethene (66 ppb) and methylene chloride (48 ppb) were exceeded in Borehole No. 17 (S-12) and Monitoring Well No. 5 (S-1), respectively. It should be noted that methylene chloride was also detected in the field blank (11 ppb).

The remaining 9 samples collected by TAT were soil samples (collected from one monitoring well and eight borehole locations). Although VOC concentrations in soils were elevated, the concentration levels were significantly lower than concentrations observed in the ground water samples. Soil concentrations ranged from below method detection limits to 1,300 ppb unknown hydrocarbons (S-17).

Because final EIS analytical results have not been received, precise quantitative and qualitative comparisons between TAT QA/QC analytical results and EIS results are not possible. A strong quantitative relationship (total VOC) has been observed, however, and Table 3 presents an initial comparison between TAT analytical results and EIS analytical results. A preliminary review of the data indicated that of 6 of the 12 TAT duplicate samples registered total VOC concentrations within 25 percent of EIS analytical results.

TABLE 1

ANALYTICAL RESULTS OF TAT SAMPLING[1]
ACCRA-PAC SITE
ELKHART, INDIANA
April 11 - June 2, 1989
(All results in parts per billion)

Sample No.	S-1	S-2	S-3	S-4	S-5	S-6	S-7
Monitoring Well or Borehole No.	MW-5	Field Blank	MW-6	Background	B-2	B-2	Field Blank
Sample Description	Tan Liquid	Deionized Water	Coarse Sand	Coarse Sand	Coarse Sand	Tan Liquid	Deionized Water
Sample Depth (feet)	24.5-25.5		19.5-21.0		20.5-22.0	20.0-21.0	
EIS Head-Space Reading[2] (units)	3.0		5.9		15.0	7.0	
Chloroethane	570	ND	ND	ND	ND	510	ND
1,1-Dichloroethene	26*	ND	ND	ND	ND	73	ND
1,2-Dichloroethane	16*	ND	ND	ND	ND	26	ND
1,1,1-Trichloroethane	1,600	ND	7	2*	ND	1,300	ND
1,2-Dichloroethene	ND	ND	3*	ND	ND	820	ND
Trichloroethene	ND	ND	2*	ND	ND	19	ND
Xylene (total)	ND	ND	ND	2*	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	0.9*	ND
Tetrachloroethene	ND	ND	ND	ND	6	24	ND
1,1,2-Trichlorethane	ND	ND	ND	ND	ND	7	ND
Vinyl Chloride	ND	ND	ND	ND	ND	290*	ND
1,1 Dichloroethane	2,700	ND	9	ND	ND	9,300	ND
Toluene	ND	ND	ND	ND	5*	3*	2*
Methylene Chloride	150B	ND	6B	18B	7	18	ND
Acetone	ND	ND	ND	ND	21B	20B	16B

[1]Samples analyzed by WESTON Gulf Coast Laboratories, Inc., University Park, Illinois under Analytical Services TDD# 5-8904-L02.
[2]Readings recorded by EIS with Hnu photoionization detector with 11.7 eV probe.
ND = Not detected at method detection limit.
B = Detected in blank.
*Estimated concentration.

TABLE 1 (CONTINUED)

ANALYTICAL RESULTS OF TAT SAMPLING[1]
ACCRA-PAC SITE
ELKHART, INDIANA
April 11 - June 2, 1989
(All results in parts per billion)

Sample No.	S-8	S-9	S-10	S-11	S-12	S-13	S-14
Monitoring Well or Borehole No.	B-9	B-9	B-9	Field Blank	B-17	B-17	Field Blank
Sample Description	Tan Liquid	Coarse Sand	Tan Liquid	Deionized Water	Translucent Grey Liq.	Gravel, Med. Sand	Deionized Water
Sample Depth (feet)	18.5-19.5	19.5-21.0	24.5-25.5		20.0-21.0	15.5-16.5	
EIS Head-Space Reading[2] (units)	10.0	4.7	1.9		2.8	3.9	
Chloroethane	230	ND	59	ND	81	ND	ND
1,1-Dichloroethene	130	ND	27	ND	66	ND	ND
1,2-Dichloroethane	20	ND	8	ND	6	ND	ND
1,1,1-Trichloroethane	3,100	77	840	7	1,500	10	ND
1,2-Dichloroethene	550	ND	200	ND	290	ND	ND
Trichloroethene	12	ND	2*	ND	24	ND	ND
Xylene (total)	5	ND	27	ND	580	12	ND
Tetrachloroethene	18	3*	58	ND	100	5*	ND
1,1,2-Trichlorethane	17	ND	5	ND	5	ND	ND
Vinyl Chloride	77	ND	14	ND	18	ND	ND
1,1 Dichloroethane	6,800	19	1,900	9	3,500	5*	ND
Ethylbenzene	ND	ND	6	ND	68	1*	ND
Chloroform	ND	ND	ND	ND	0.7*	ND	ND
Toluene	ND	4*	4*	ND	8	ND	ND
Methylene Chloride	33B	8	16B	ND	9	24	11
Acetone	27B	54B	28B	34B	5*B	40B	36B

[1]Samples analyzed by WESTON Gulf Coast Laboratories, Inc., University Park, Illinois under Analytical Services TDD# 5-8904-L02.
[2]Readings recorded by EIS with Hnu photoionization detector with 11.7 eV probe.
ND= Not detected at method detection limits.
B = Detected in blank.

TABLE 1 (CONTINUED)

ANALYTICAL RESULTS OF TAT SAMPLING[1]
ACCRA-PAC SITE
ELKHART, INDIANA
April 11 - June 2, 1989
(All results in parts per billion)

Sample No.	S-15	S-16	S-17	S-18
Monitoring Well/Borehole No.	B-19	B-19	B-23	B-23
Sample Description	Solid	Solid	Olive Grey, Coarse to Medium Sand and Gravel	Olive Grey, Coarse to Medium Sand and Gravel
Sample Depth (feet)	18.0-19.5	36.0-37.5	13.5-15.0	16.5-18.0
EIS Head-Space Reading[2] (units)	NA[6]	NA	190.0	60.0
1,1,1-Trichloroethane	ND	35	ND	5*
Xylene (total)	ND	9	61	9
Tetrachloroethene	ND	17	100	7
1,1 Dichloroethane	ND	17	ND	ND
Ethylbenzene	ND	4*	ND	ND
Toluene	ND	ND	ND	9
Carbon Disulfide	ND	1*	ND	ND
Methylene Chloride	55B	32B	4*B	ND
Acetone	39B	45B	21B	6*B

[1]Samples analyzed by WESTON Gulf Coast Laboratories, Inc., University Park, Illinois under Analytical Services TDD# 5-8904-L02.

[2]Readings recorded by EIS with Hnu photoionization detector with 11.7 eV probe.

ND = Not detected at method detection limits.

B = Detected in blank.

TABLE 2

ANALYTICAL RESULTS OF TAT GROUNDWATER SAMPLING[1]
ACCRA-PAC SITE
ELKHART, INDIANA
April 11 - June 2, 1989
(All results in parts per billion)

Contaminant	Removal Action Level[2]	Samples That Equal or Exceed RAL
1,1-Dichloroethene	175	None
1,2-Dichloroethane	38	None
1,1,1-Trichloroethane	500	S-1(1,600) S-6(1,300) S-8(3,100) S-10(840) S-12(1,500)
1,2-Dichloroethene	175	S-6(820) S-8(550) S-10(200) S-12(290)
Trichloroethene	128	None
Xylene (total)	1,078	None
Benzene	120	None
Tetrachloroethene	66	S-12 (100)
Vinyl Chloride	1,300	None
1,1 Dichloroethane[3]	--	--
Ethylbenzene	1,698	None
Toluene	6,050	None
Methylene Chloride	48	S-1 (150)

[1]Samples analyzed by WESTON Gulf Coast Laboratories, Inc., University Park, Illinois under Analytical Services TDD# 5-8904-L02.
[2]U.S. EPA Office of Solid Waste and Emergency Response Directive 9360.1-10.
[3]No Removal Action Level established.

TABLE 3

ANALYTICAL RESULTS OF TAT/EIS SAMPLING[1]
ACCRA-PAC SITE
ELKHART, INDIANA
April 11 - June 2, 1989
(All results in parts per billion)

Sample No. (TAT/EIS)	S-1/1657	S-3/1680	S-6/1838	S-8/2327
Monitoring Well or Borehole No.	MW-5	MW-6	B-2	B-9
Sample Description	Tan Liquid	Coarse Sand	Tan Liquid	Tan Liquid
Sample Depth (feet)	24.5-25.5	19.5-21.0	20.0-21.0	18.5-19.5
Chloroethane	570/ND	ND	510/ND	230/ND
1,1-Dichloroethene	26*/ND	ND	73/ND	130/ND
1,2-Dichloroethane	16*/ND	ND	26/ND	20/ND
1,1,1-Trichloroethane	1,600/ND	7/ND	1,300/ND	3,100/ND
1,2-Dichloroethene	ND	3*/ND	820/ND	550/ND
Trichloroethene	ND	2*/ND	19/ND	12/ND
Xylene (total)	ND	ND	ND/200	5/ND
Benzene	ND	ND	0.9*/ND	ND
Tetrachloroethene	ND	ND	24/ND	18/ND
1,1,2-Trichlorethane	ND	ND	7/ND	17
Vinyl Chloride	ND/190	ND	290*/860	77/760
1,1 Dichloroethane	2,700/ND	9/ND	9,300/ND	6,800/ND
Ethylbenzene	ND	ND	ND/100*	ND
Toluene	ND	ND	3*/ND	ND
Freon 21	ND/620	ND	ND/760	ND/520
Dichloroethane	ND/3,070	ND/0.56	ND/9,900	ND/8,100
C-1,2-Dichloroethene	ND/170	ND/0.06	ND/790	ND/590
Freon 11	ND	ND	ND	ND/100
Trichloroethane	ND/860	ND/0.15	ND/1,150	ND/4,100
Freon-TF	ND	ND	ND	ND/900
Total VOC	4,912/4,910	21/0.77	12,373.8/13,760	12,189/15,070

[1]Samples analyzed by WESTON Gulf Coast Laboratories, Inc., University Park, Illinois under Analytical Services TDD# 5-8904-L02.
ND = Not detected at method detection limits.
*Estimated concentration.

TABLE 3 (Continued)

ANALYTICAL RESULTS OF TAT/EIS SAMPLING[1]
ACCRA-PAC SITE
ELKHART, INDIANA
April 11 - June 2, 1989
(All results in parts per billion)

Sample No. (TAT/EIS)	S-9/2328	S-10/2330	S-12/2909	S-13/2908
Monitoring Well or Borehole No.	B-9	B-9	B-17	B-17
Sample Description	Coarse Sand	Tan Liquid	Translucent Grey Liq.	Gravel, Med. Sand
Sample Depth (feet)	19.5-21.0	24.5-25.5	20.0-21.0	15.5-16.5
Chloroethane	ND	59/ND	81/ND	ND
1,1-Dichloroethene	ND	27/ND	66/ND	ND
1,2-Dichloroethane	ND	8/ND	6/ND	ND
1,1,1-Trichloroethane	77/ND	840/ND	1,500/ND	10/ND
1,2-Dichloroethene	ND	200/ND	290/130	ND
Trichloroethene	ND/0.24	2*/ND	24/30*	ND
Xylene (total)	ND	27/ND	580/1,610	12/0.30
Tetrachloroethene	3*/ND	58/110	100/90*	5*/0.11
1,1,2-Trichlorethane	ND	5/ND	5/ND	ND
Vinyl Chloride	ND	14/320	18/ND	ND
1,1 Dichloroethane	19/ND	1,900/ND	3,500/ND	5*/ND
Ethylbenzene	ND	6/ND	68/180*	1*/0.08
Chloroform	ND	ND	0.7*/ND	ND
Toluene	4*/ND	4*/ND	8/ND	ND
Freon 21	ND	ND/380	ND/200	ND
Dichloroethane	ND	ND/4,500	ND/3,130	ND/0.32
C-1,2-Dichloroethene	ND	ND/300	ND/250	ND
Freon 11	ND	ND/120	ND/190	ND
Trichloroethane	ND	ND/1,600	ND/1,880	ND/0.26
Freon-TF	ND/0.94	ND/2,900	ND	ND
DCB	ND	ND	ND/80*	ND/0.15
MCR	ND	ND	ND	ND/6.9
Total VOC	1,075/1.18	3,150/10,230	7,976.7/6,640	43/8.12

[1]Samples analyzed by WESTON Gulf Coast Laboratories, Inc., University Park, Illinois under Analytical Services TDD# 5-8904-L02.
ND = Not detected at method detection limits.
*Estimated concentration.

TABLE 3 (Continued)

ANALYTICAL RESULTS OF TAT/EIS SAMPLING[1]
ACCRA-PAC SITE
ELKHART, INDIANA
April 11 - June 2, 1989
(All results in parts per billion)

Sample No. (TAT/EIS)	S-15/2989	S-16/2993	S-17/3249	S-18/3250
Monitoring Well or Borehole No.	B-19	B-19	B-23	B-23
Sample Description	Solid	Solid	Olive Grey, Coarse to Med. Sand and Gravel	Olive Grey, Coarse to Med. Sand and Gravel
Sample Depth (feet)	18.0-19.5	36.0-37.5	13.5-15.0	16.5-18.0
1,1,1-Trichloroethane	ND	35/ND	ND	5*/ND
Xylene (total)	ND/0.29	9/0.28	61/0.44	9/0.29
Tetrachloroethene	ND/0.08	17/0.50	100/0.65	7/0.38
1,1 Dichloroethane	ND	17/ND	ND	ND
Ethylbenzene	ND/0.05	4*/0.16	ND	ND
Toluene	ND/0.51	ND	ND	9/ND
Carbon Disulfide	ND	1*/ND	ND	ND
Dichloroethane	ND/16	ND/0.81	ND	ND/0.19
C-1,2-Dichloroethene	ND/0.04*	ND	ND	ND
Trichloroethane	ND/0.43	ND/1.6	ND/0.19	ND/0.38
Freon-TF	ND	ND/1.3	ND	ND/0.95
DCB	ND/0.35	ND	ND/0.06	ND
MCR	ND/4*	ND	ND/64	ND/35
Total VOC	ND/25.75	143/4.65	2,861/65.34	30/37.1

[1]Samples analyzed by WESTON Gulf Coast Laboratories, Inc., University Park, Illinois under Analytical Services TDD# 5-8904-L02.
ND = Not detected at Method Detection Limits.
*Estimated concentration.

Qualitatively, the TAT and EIS analytical results varied greatly. This variation may result from the different compound identification techniques used by TAT and EIS laboratories. Whereas the TAT laboratory (WESTON Gulf Coast Laboratories, Inc.) used a combined gas chromatography/mass spectrophotometry technique for analysis and quantification of samples, the EIS laboratory used gas chromatography for analysis.

During a September 29, 1989 meeting, which was attended by U.S. EPA OSC Ken Theisen, TAT member Jeff Binkley, EIS, and an Accra-Pac representative, EIS presented preliminary hydrogeological and chemical data obtained from the extent-of-contamination (EOC) study at the site. Main topics of discussion included two apparent "hot spots" and the necessity of installing additional monitoring points along the eastern boundary of the site.

Although widespread contamination is present at the site, the contamination appears to be concentrated near the Western Pit Area and Borehole No. 21. A possible explanation for the contamination near Borehole No. 21 is the presence of an underground point source (e.g., underground storage tank or septic system), which EIS is currently investigating. Elevated concentrations in the Western Pit Area are believed to result from transportation of contaminated surface runoff towards the pond (direction of local surface drainage) during firefighting activities, or the pond may serve as a recharge/discharge point for site ground water (depending on seasonal fluctuations), which would permit relatively rapid contaminant migration from the site to the Western Pit Area.

Additional discussion during the meeting focused on further definition of the EOC near the eastern boundary of the site. EIS representatives indicated that installation of additional boreholes would be proposed to the PRP, in addition to off-site monitoring wells on the east side of the site. Furthermore, EIS will excavate the area to locate any underground structures that may be a contaminant point source.

A final report, including documentation of any additional sampling activities, will be prepared by EIS. This final report will define the EOC, provide volume estimates, and discuss remediation options.

Should you have any questions or require additional information, please feel free to contact us.

Very truly yours,

ROY F. WESTON, INC.

Sally Matz

FOR Jeffrey S. Binkley
Environmental Scientist

William R Doyle

William R. Doyle
Technical Assistance Team
Leader, Region V

JSB/dn
att.
cc: K. Theisen, OSC

ATTACHMENT A

SITE PHOTOGRAPHS

PHOTO: 1
SITE: ACCRA-PAC, Elkhart, Indiana
DESCRIPTION: EIS geologist collecting water sample by pouring water from hydro-punch.
DATE/TIME: 4/10/89 (0800 - 1700 hours)
PHOTOGRAPHER: Binkley

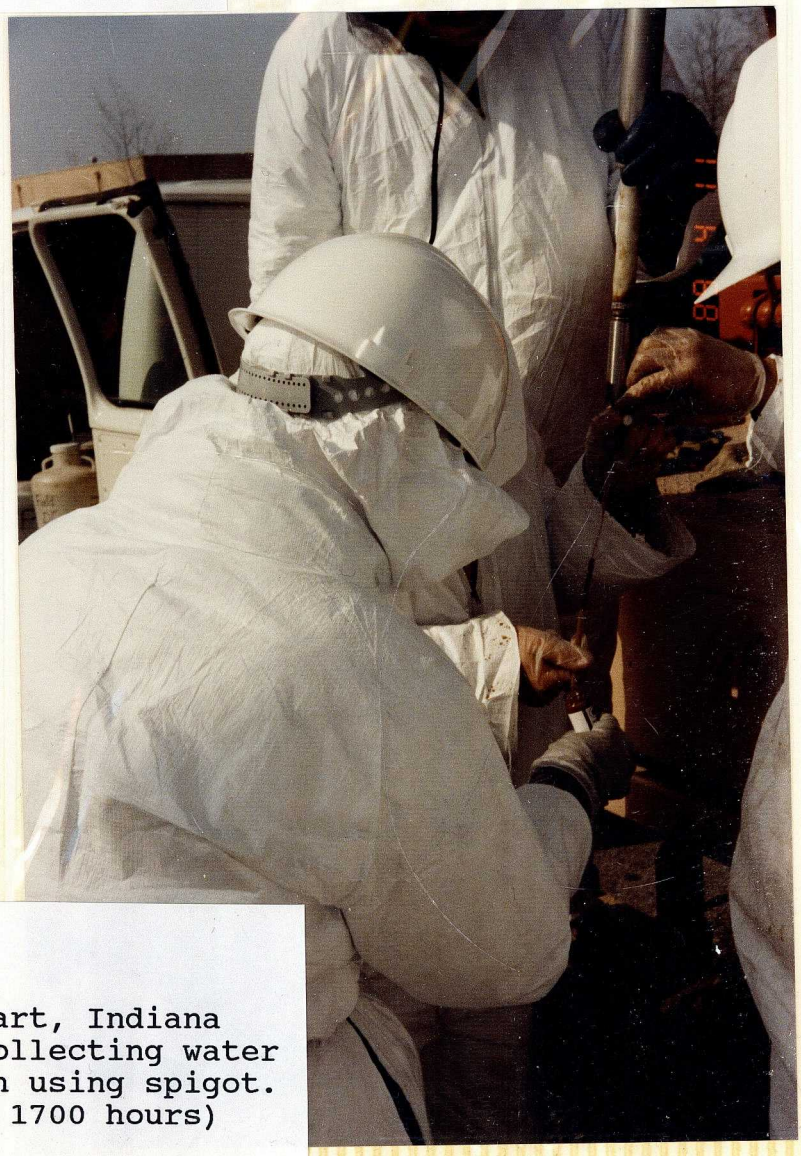


PHOTO: 2
SITE: ACCRA-PAC, Elkhart, Indiana
DESCRIPTION: EIS geologist collecting water from hydro-punch using spigot.
DATE/TIME: 4/11/89 (0800 - 1700 hours)
PHOTOGRAPHER: Binkley

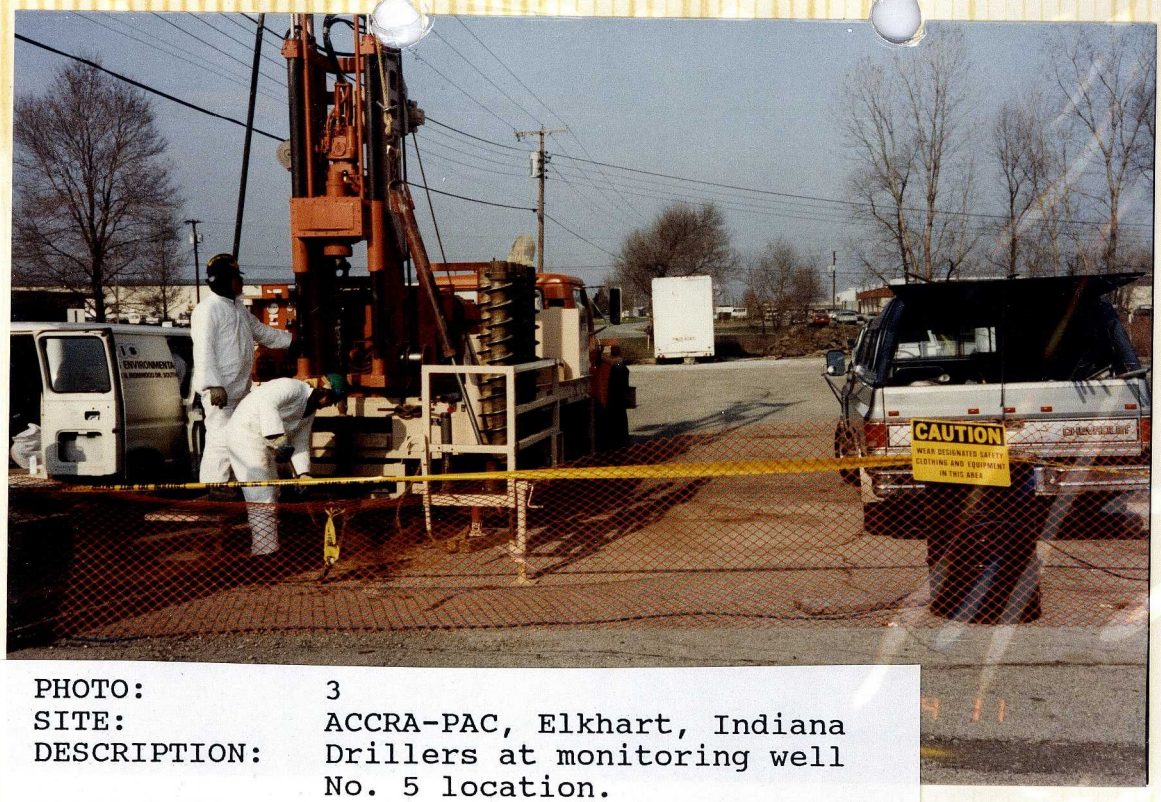


PHOTO: 3
SITE: ACCRA-PAC, Elkhart, Indiana
DESCRIPTION: Drillers at monitoring well No. 5 location.
DATE/TIME: 4/11/89 (0800 - 1700 hours)
PHOTOGRAPHER: Binkley DB

PHOTO: 4
SITE: ACCRA-PAC, Elkhart, Indiana
DESCRIPTION: Drillers setting up at monitoring well No. 6 location.
DATE/TIME: 4/12/89 (0730 - 1300 hours)
PHOTOGRAPHER: Binkley DB

PHOTO: 5
SITE: ACCRA-PAC, Elkhart, Indiana
DESCRIPTION: Driller decontaminating equipment.
DATE/TIME: 4/12/89 (0730 - 1300 hours)
PHOTOGRAPHER: Binkley

PHOTO: 6
SITE: ACCRA-PAC, Elkhart, Indiana
DESCRIPTION: EIS geologist decontaminating split spoon sampler.
DATE/TIME: 4/12/89 (0730 - 1300 hours)
PHOTOGRAPHER: Binkley

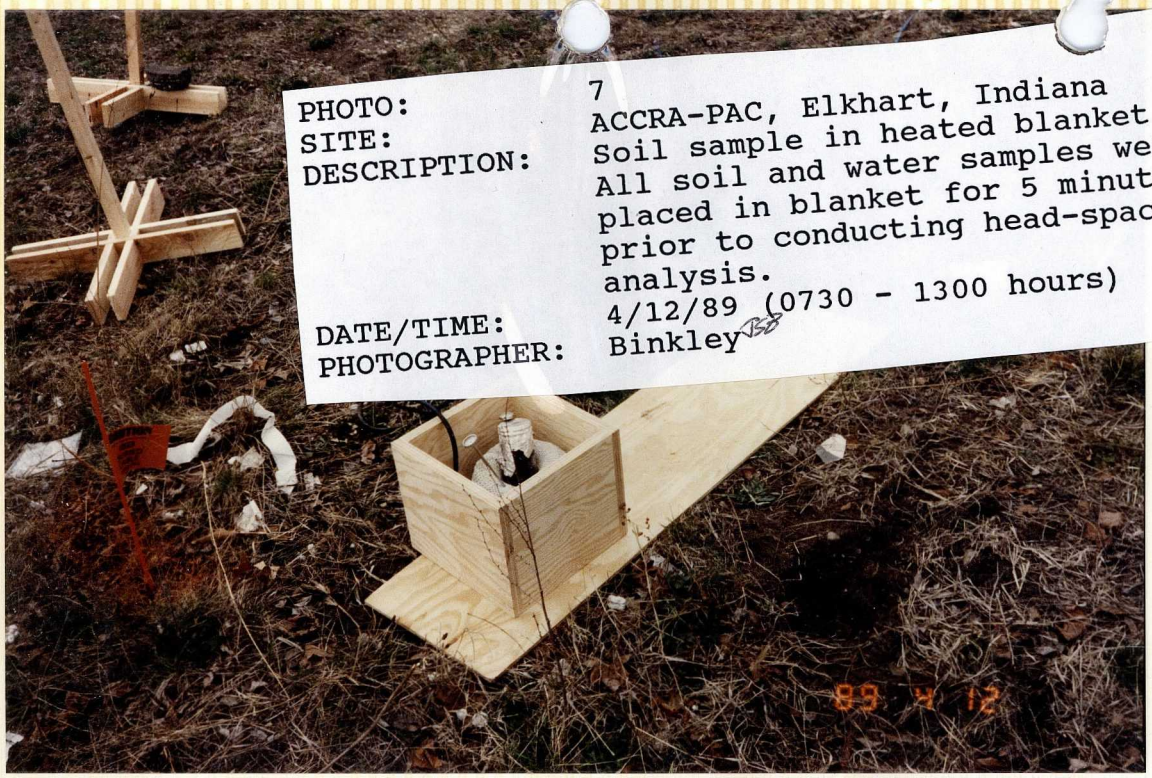


PHOTO: 7
SITE: ACCRA-PAC, Elkhart, Indiana
DESCRIPTION: Soil sample in heated blanket. All soil and water samples were placed in blanket for 5 minutes prior to conducting head-space analysis.
DATE/TIME: 4/12/89 (0730 - 1300 hours)
PHOTOGRAPHER: Binkley

PHOTO: 8
SITE: ACCRA-PAC, Elkhart, Indiana
DESCRIPTION: EIS Hnu photoionization detector and calibration gases. EIS safety officer calibrated Hnu to high and low isobutylene concentrations and single concentration of tri-chloroethene.
DATE/TIME: 4/10/89 (0730 - 1300 hours)
PHOTOGRAPHER: Binkley

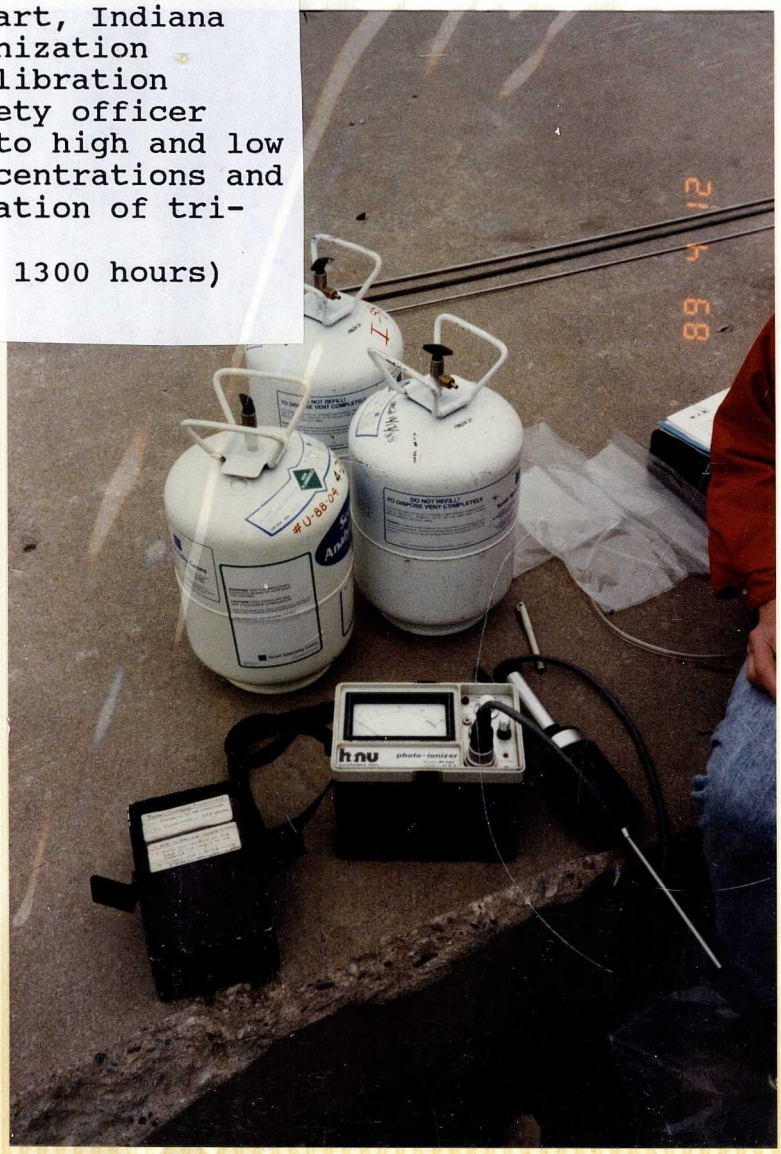


PHOTO: 9
SITE: ACCRA-PAC, Elkhart, Indiana
DESCRIPTION: EIS geologist screening split spoon sample with Hnu photo-ionization detector.

DATE/TIME: 4/12/89 (0730 - 1300 hours)
PHOTOGRAPHER: Binkley EB

PHOTO: 10
SITE: ACCRA-PAC, Elkhart, Indiana
DESCRIPTION: EIS geologist collecting soil sample from split spoon.

DATE/TIME: 4/12/89 (0730 - 1300 hours)
PHOTOGRAPHER: Binkley EB

PHOTO: 11
SITE: ACCRA-PAC, Elkhart, Indiana
DESCRIPTION: Driller adding gravel pack to monitoring well No. 5.
DATE/TIME: 4/12/89 (0730 - 1300 hours)
PHOTOGRAPHER: Binkley EB

PHOTO: 12
SITE: ACCRA-PAC, Elkhart, Indiana
DESCRIPTION: Monitoring well No. 5 following grouting.
DATE/TIME: 4/12/89 (0730 - 1300 hours)
PHOTOGRAPHER: Binkley EB

PHOTO: 17
SITE: ACCRA-PAC, Elkhart, Indiana
DESCRIPTION: Truck well used to collect drilling fluids/mud and steam cleaning rinsate.
DATE/TIME: 4/24/89 (1200 - 1700 hours)
PHOTOGRAPHER: Guria

ATTACHMENT B

WEEKLY OSC REPORTS

WESTON SM MANAGERS DESIGNERS/CONSULTANTS
Suite 3301, Triangle Park, 33 Triangle Park Drive, Cincinnati, OH 45246
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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

MEMO

TO: Kenneth Theisen
U.S. EPA On-Scene Coordinator

DATE: 14 April 1989

FROM: Region V Technical Assistance Team

RE: TDD# 5-8903-15
Acra-Pac PRP Monitoring
Reporting Period: April 10-14, 1989

On April 10, 1989, EIS Environmental Engineers, Inc. (EIS) and their drilling subcontractor, Cook Drilling Company, began an extent-of-contamination study at the Acra-Pac site. U.S. Environmental Protection Agency (U.S. EPA) OSC Ken Theisen monitored activities on April 10 and 11; TAT member Jeff Binkley monitored activities April 10-12. All on-site activities were in accordance with the Acra-Pac work plan prepared by EIS for the Warner-Baker Estate (property owner).

Drilling activities were initiated on April 10, 1989, at an upgradient location in the southeast corner of the site (see attached map). Ground-water flow at the site is to the north-northwest. Water and soil samples were collected to a depth of 60 feet at this location, in which a saturated zone was encountered between approximately 14 and 24 feet. Elevated head-space readings were recorded with an HNu photoionization detector on soil and water samples collected in the saturated zone. On April 11, 1989, a 2-inch PVC monitoring well (MW-5) was installed; the well was screened and gravel packed at the 14 to 24 ft depth, and was grouted from the gravel pack to the surface.

On April 12, 1989, drilling of monitoring well MW-6 was initiated on the southwest corner of the site, which was selected as the second upgradient monitoring location. When the TAT departed the site at 1300 hours, drilling was completed to a depth of approximately 25 feet, and a saturated zone similar to the one in monitoring well MW-5 had been encountered at approximately 15 feet.

During installation of monitoring wells MW-5 and MW-6, the TAT collected four samples (Table 1) to be analyzed for volatile organic compounds (VOCs). After experiencing initial start-up problems, EIS successfully utilized a hydro-punch to collect ground-water samples from discrete depths. This technique should increase the efficiency of future ground-water sampling.

In an on-site discussion, EIS also indicated an area on the east edge of the site, which may be an underground storage tank or septic tank. Following notification of the Warner-Baker Estate representative, EIS may investigate the area.

On April 14, 1989, Steve Nye (EIS) reported that the MW-6 bore hole was completed in an impermeable layer at a depth of 60 feet. Mr. Nye also indicated that elevated photoionization readings had been recorded at depths of approximately 20 feet to 60 feet.

Additional bore holes are scheduled to be started near the west side of the pit on Monday, April 17.

JSB:den

att.

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TABLE 1

SAMPLES COLLECTED BY TAT
ACRA-PAC SITE
ELKHART, INDIANA
April 11-12, 1989

Sample No.	Sample Location	Sample Description	EIS Head-Space
S-1	MW-5 (24 - 25.5 ft)	Muddy water	3.0 units
S-2	Field Blank	Deionized water	
S-3	MW-6 (19.5 - 21 ft)	Coarse sand	5.9 units
S-4	Background collected south of site across Industrial Parkway	Sandy soil	

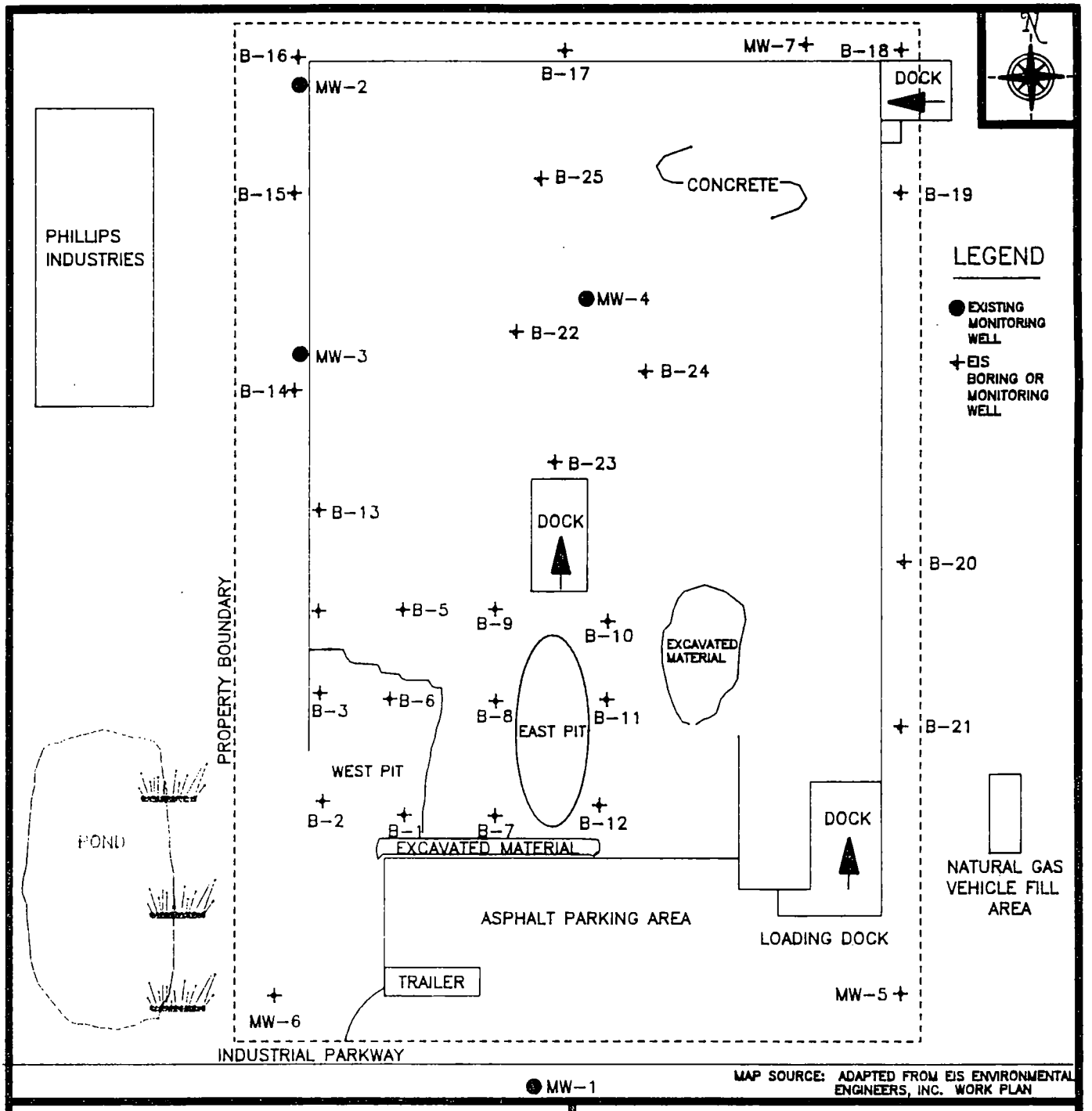

FIGURE 2

SITE MAP

ACCRA-PAC SITE

ELKHART, INDIANA

APPROXIMATE SCALE 1 INCH = 50 FEET

WESTON

MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY	DATE	PCS #
J. BINKLEY	05-03-89	2174
APPROVED BY	DATE	TDD #
S. JANSEN	05-03-89	5-8903-15

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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

MEMO

TO: Kenneth Theisen
U.S. EPA On-Scene Coordinator

DATE: 21 April 1989

FROM: Region V Technical Assistance Team

RE: TDD# 5-8903-15
Accra-Pac PRP Monitoring
Reporting Period: April 17-21, 1989

Drilling activities resumed at the Accra-Pac site in Elkhart, Indiana, on April 18, 1989, and Technical Assistance Team (TAT) member Pet Guria monitored site activities on April 19, 1989. All on-site activities were in accordance with the Accra-Pac work plan prepared by EIS for the Warner-Baker Estate.

Borehole No. 1, which was initiated on April 18, 1989, is located southwest of one of two pits on site (see attached map). Water and soil samples were collected from the borehole every 3 to 5 feet to a completed depth of 33 feet. Head-space readings recorded with an Hnu photoionization detector were generally low at all depths. The saturated zone was encountered at approximately 8 feet at this location, and upon completion, the borehole was grouted throughout its depth.

On April 19, 1989, borehole No. 2 was initiated approximately 15 feet west of borehole No. 1 (see attached map). The saturated zone was encountered at approximately 7.5 feet at this location, and soil and water samples were collected to a depth of 73.5 feet. Elevated head-space readings ranging between 60 and 150 units were recorded on the Hnu photoionization detector from depths of 7.5 to 65 feet, compared to ambient air readings near the borehole opening of less than 4.0 units. Borehole No. 2 was completed and grouted throughout its depth on April 20, 1989.

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On April 21, 1989, drilling of borehole No. 3 was started a the western edge of a pit (see attached map). Soil and water samples were collected to a depth of approximately 66 feet at this location, in which the saturated zone was encountered at a depth of 7.5 feet. Elevated head-space readings ranging from 75 to 200 units were recorded on the Hnu photoionization detector from soil and water samples collected at depths of 7.5 to 35 feet.

Because ambient air readings of soil and water samples were greater than 5.0 units on the Hnu photoionization detector, respiratory protection was worn by personnel during sampling. Drilling was completed on April 21, 1989.

The TAT collected two samples from borehole NO. 2 on April 19, 1989 (Table 1). These samples were analyzed for volatile organic compounds.

Grouting for borehole No. 3 is scheduled to be completed MOnday, April 24, at which time additional borings will also be started.

PG/dn

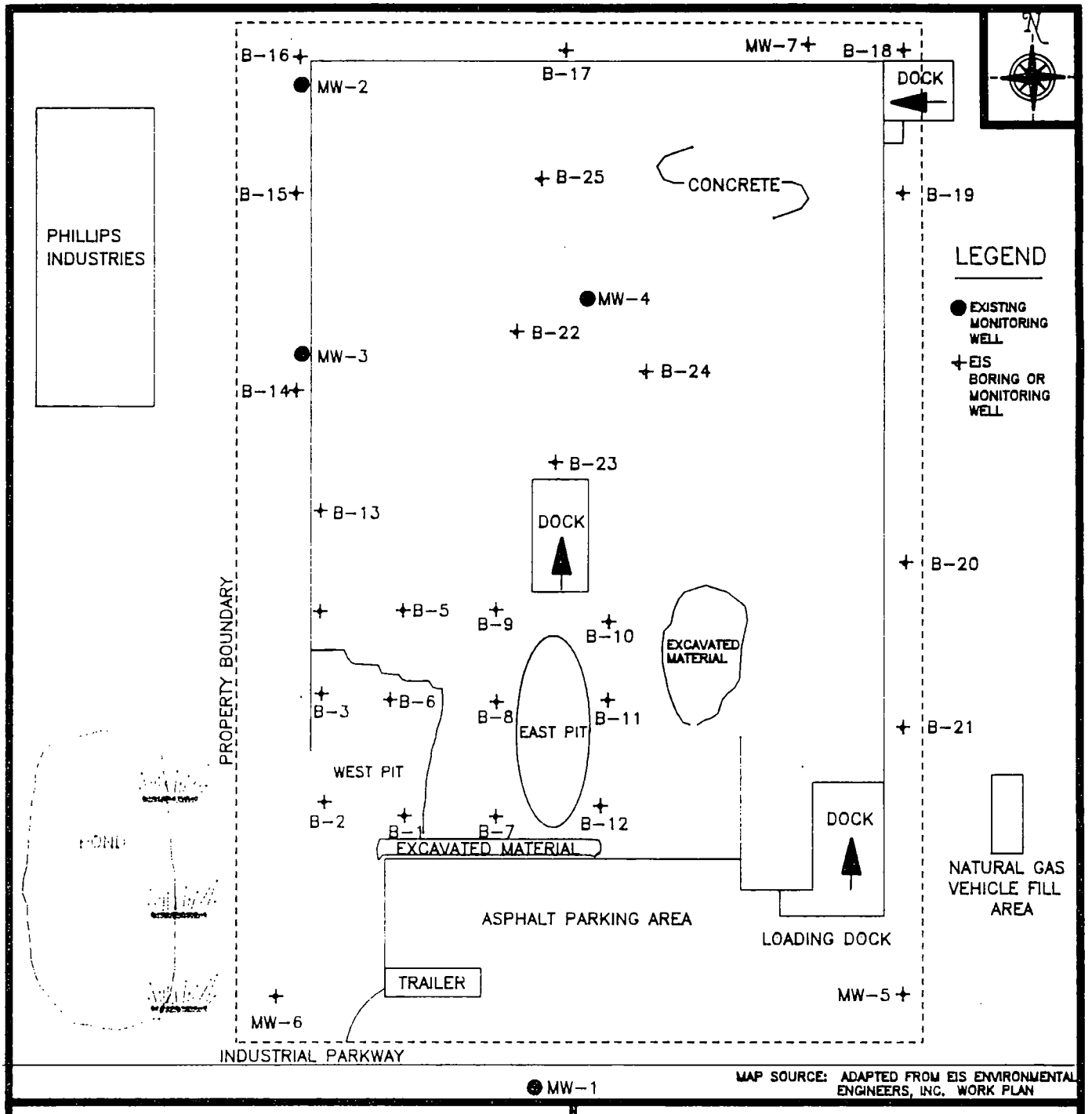
att.

WESTON·SPER

TABLE 1

SAMPLES COLLECTED BY TAT
ACCRA-PAC SITE
ELKHART, INDIANA
April 19, 1989

Sample No.	Sample Location	Sample Description	EIS Head-Space
S-5	BH2S (20.5 - 22.0 ft)	Coarse sand	15.0 units
S-6	BH2L (19.5 - 21.0 ft)	Tan liquid	7.0 units
S-7	Field Blank	Deionized water	



MAP SOURCE: ADAPTED FROM EIS ENVIRONMENTAL ENGINEERS, INC. WORK PLAN

FIGURE 2

SITE MAP

ACCRA-PAC SITE

ELKHART, INDIANA

APPROXIMATE SCALE 1 INCH = 50 FEET

WESTON MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY J. BINKLEY	DATE 05-03-89	PCS # 2174
APPROVED BY S. JANSEN	DATE 05-03-89	TDD # 5-8903-15

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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

MEMO

TO: Kenneth Theisen
U.S. EPA On-Scene Coordinator

DATE: 28 April 1989

FROM: Region V Technical Assistance Team

RE: TDD# 5-8903-15
Accra-Pac PRP Monitoring
Reporting Period: April 24-28, 1989

Drilling activities resumed at the Accra-Pac site in Elkhart, Indiana, on April 24, 1989, and Technical Assistance Team (TAT) member Pete Guria monitored site activities on April 24, 1989. TAT member Jeff Binkley and U.S. EPA On-Scene Coordinator (OSC) Ken Theisen also monitored site activities on April 26, 1989. No samples were collected by the TAT during this week. All observed activities were performed in accordance with he Accra-Pac workplan prepared by EIS for the Warner-Baker Estate.

On April 24, 1989, grouting of borehole No. 3 was initiated (see attached map). Difficulties were encountered because the borehole collapsed during extraction of the auger. To allow sufficient filling of the borehole, it was necessary to simultaneously extract the auger and grout the borehole. This process resulted in delayed drilling activities.

Borehole No. 4 (see attached map) was completed at a depth of 63.5 feet on April 26, 1989, and the saturated zone was encountered at a depth of approximately 8 feet at this location. Soil and water samples were collected from the borehole every 3 to 5 feet by EIS personnel. Elevated head-space readings ranging from 30 to 50 units were recorded on the Hnu photoionization detector from near the surface to depths of approximately 20 feet. Lower head-space readings were also recorded throughout the depth of the borehole. Following completion, borehole No. 4 was grouted throughout its depth.

On April 27, 1989, borehole No. 5 was initiated (see attached map). The saturated zone was encountered at approximately 7.8 feet at this location, and EIS collected soil and water samples to a depth of 63 feet. Elevated head-space readings ranging between 40 and 90 units were recorded on the Hnu photoionization detector from depths of 1.5 to 18 feet, in addition to lower readings recorded throughout the depth of the borehole. Following completion, borehole No. 5 was grouted throughout its depth.

Borehole No. 6 was initiated on April 28, 1989, and completion of this borehole is anticipated on May 1, 1989. Future plans include initiating the boreholes surrounding the eastern pit (see attached map).

JSB/dn

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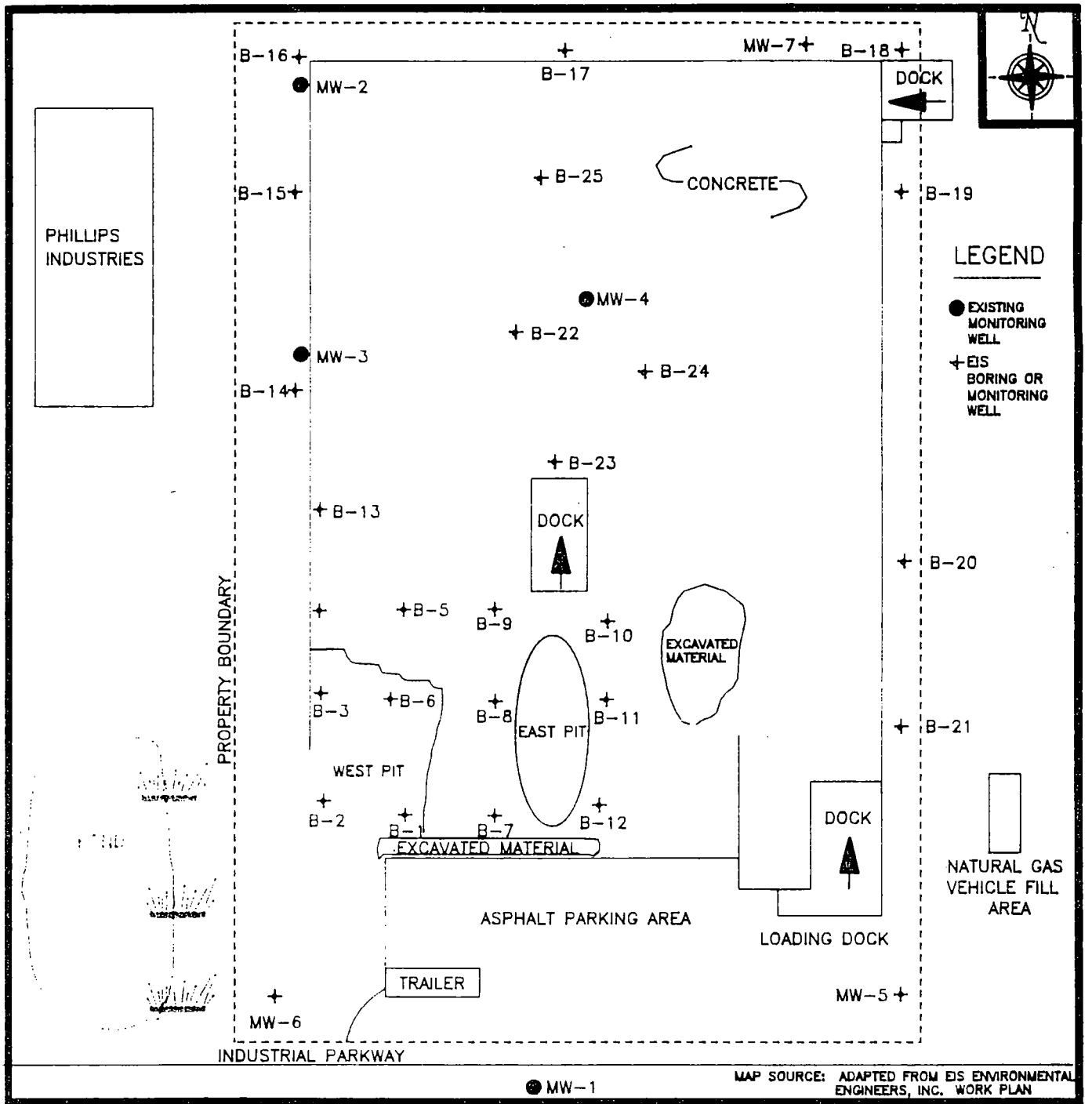

FIGURE 2

SITE MAP

ACCRA-PAC SITE

ELKHART, INDIANA

APPROXIMATE SCALE 1 INCH = 50 FEET

WESTON MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY	DATE	PCS #
J. BINKLEY	05-03-89	2174
APPROVED BY	DATE	TDD #
S. JANSEN	05-03-89	5-8903-15

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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

MEMO

TO: Kenneth Theisen
U.S. EPA On-Scene Coordinator

DATE: 5 May 1989

FROM: Region V Technical Assistance Team

RE: TDD# 5-8903-15
Accra-Pac Potentially Responsible Party
(PRP) Monitoring
Reporting Period: May 1-5, 1989

Drilling activities resumed at the Accra-Pac site in Elkhart, Indiana, on May 1, 1989. U.S. EPA On-Scene Coordinator Ken Theisen monitored site activities on May 1, 1989, and Technical Assistance Team (TAT) member Pete Guria monitored site activities on May 3 and 4, 1989. All observed activities were performed in accordance with the Accra-Pac workplan prepared by EIS for the Warner-Baker Estate.

Borehole No. 6, which is located on the southeast edge of the west pit, was initiated on April 28, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 8.0 feet at this location, and soil and water samples were collected to a depth of 75.0 feet. Head-space readings measured with an Hnu photoionization detector were recorded as follows: 40 units at 6.0 to 7.5 feet; 120 units at 9.0 to 10.5 feet; 92 units at 10.5 to 12.0 feet; and 68 units at 13.5 to 15.0 feet. Lower head-space readings were recorded throughout the depth of the borehole. Borehole No. 6 was completed and grouted throughout its depth on May 1, 1989.

On May 2, 1989, borehole No. 7 was initiated on the southwest edge of the east pit. The saturated zone was encountered at an approximate depth of 8.5 feet at this location, and soil and water samples were collected to a depth of 39.0 feet. Head-space readings measured with an Hnu photoionization detector at this location were recorded as follows: 68 units at 9.0 to 10.5 feet; 66 units at 13.5 to 15.0 feet; and 40 units at 18.0 feet. Borehole No. 7 was completed and grouted throughout its depth on May 3, 1989.

Borehole No. 8, which is on the western edge of the east pit (see attached map), was initiated on May 3, 1989. The saturated zone was encountered at an approximate depth of 8.0 feet at this location, and soil and water samples were collected to a depth of 31.0 feet. Head-space readings measured with an Hnu photoionization detector at this location were recorded as follows: 22 units at 7.5 to 9.0 feet; 70 units at 9.0 to 10.5 feet; 65 units at 12 to 13.5 feet; and 80 units at 13.5 to 15.0 feet. Lower head-space readings were recorded throughout the depth of the borehole. Borehole No. 8 was completed and grouted throughout its depth on May 3, 1989.

On May 4, 1989, Borehole No. 9 was initiated northwest of the east pit. The saturated zone was encountered at an approximate depth of 8.2 feet. When the TAT departed the site at 1330 hours, drilling was completed to a depth of 36.0 feet. Head-space readings measured with an Hnu photoionization detector at this location were recorded as follows: 4.0 units at 7.5 to 9.0 feet; 2.0 units at 10.5 to 12.0 feet; 16.0 units at 13.5 to 15 feet; 10.0 units at 18.0 to 19.5 feet; and 4.7 units at 24.0 to 25.5 feet.

The TAT collected three samples from borehole No. 9 on May 8, 1989 (Table 1). The samples will be analyzed for volatile organic compounds.

Drilling activities this reporting period were delayed because of difficulties encountered when advancing the hydropunch water sampler through coarse sand and gravel. The coarse sand and gravel damaged the hydropunch screen, which required frequent replacement.

Completion of borehole No. 9 is anticipated on May 5, 1989. Future plans include initiation of borehole No. 10 on May 5, 1989, and installation of additional boreholes around the eastern pit (see attached map).

JSB/dn

att.

WESTON·SPER

TABLE 1

SAMPLES COLLECTED BY TAT
ACCRA-PAC SITE
ELKHART, INDIANA
May 4, 1989

Sample No.	Sample Location	Sample Description	EIS Head-Space
S-8	BH9L (18.0 - 19.5 ft)	Tan liquid	10.0 units
S-9	BH9S (19.5 - 21.0 ft)	Coarse sand	4.7 units
S-10	BH9L (24.0 - 25.5 ft)	Tan liquid	1.9 units
S-11	Field Blank	Deionized water	

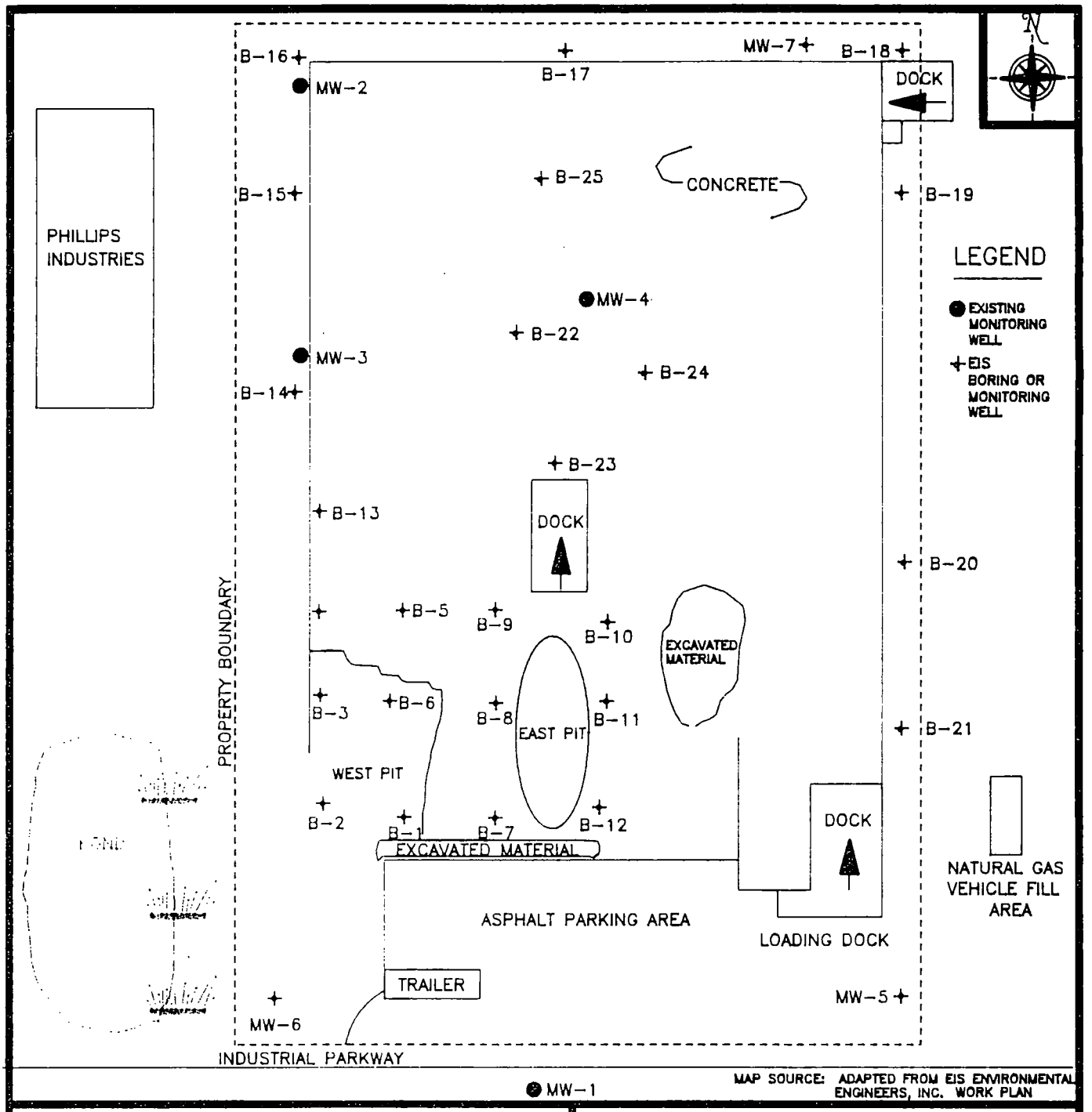

FIGURE 2

SITE MAP

ACCRA-PAC SITE

ELKHART, INDIANA

APPROXIMATE SCALE 1 INCH = 50 FEET

WESTON MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY	DATE	PCS #
J. BINKLEY	05-03-89	2174
APPROVED BY	DATE	TDD #
S. JANSEN	05-03-89	5-8903-15

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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

MEMO

TO: Kenneth Theisen
U.S. EPA On-Scene Coordinator

DATE: 12 May 1989

FROM: Region V Technical Assistance Team

RE: TDD# 5-8903-15
Accra-Pac Potentially Responsible Party (PRP) Monitoring
Reporting Period: May 8-12, 1989

Drilling activities resumed at the Accra-Pac site in Elkhart, Indiana, on May 8, 1989. U.S. EPA On-Scene Coordinator Ken Theisen monitored site activities on May 8, 1989, and Technical Assistance Team (TAT) member Jeff Binkley monitored site activities on May 10, 1989. No samples were collected by the TAT during this reporting period. Analytical results from TAT samples 1 through 7 (Table 1) were received during this reporting period, and all observed activities were performed in accordance with the Accra-Pac workplan prepared by EIS for the Warner-Baker Estate.

Borehole No. 10, which is located on the northeast edge of the east pit, was initiated on May 5, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 76.5 feet. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 33 units at 10.5 to 12 feet; 30 units at 43.5 to 45.0 feet; >200 units at 48 to 49.5 feet; 14.8 units at 49.5 to 51.0 feet; 18.5 units at 54.0 to 55.5 feet; and 13.4 units at 60.0 to 61.5 feet. Lower head-space readings were also recorded throughout the depth of the borehole. Borehole No. 10 was completed and grouted throughout its depth on May 8, 1989.

Near the east edge of the east pit, borehole No. 11 was initiated on May 8, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 89.0 feet.

The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 200 units at 10.5 to 12.0 feet; 122 units at 13.5 to 15.0 feet; 100 units at 20.0 feet; 60 units at 45 feet; and 56 units at 61.5 to 63 feet. Borehole 11 was completed and grouted throughout its depth on May 10, 1989.

Because of problems encountered the preceding week, EIS modified the hydro-punch ground water sampling procedure to minimize delays. As a result of the modifications, frequent replacement of the screen was eliminated, and the sample retrieval time was reduced by approximately 10 minutes.

Future plans include initiation of borehole No. 12 (see attached map) on May 11, 1989. Following completion of borehole No. 12, drilling activities will be initiated on the western border of the site.

JSB/dn

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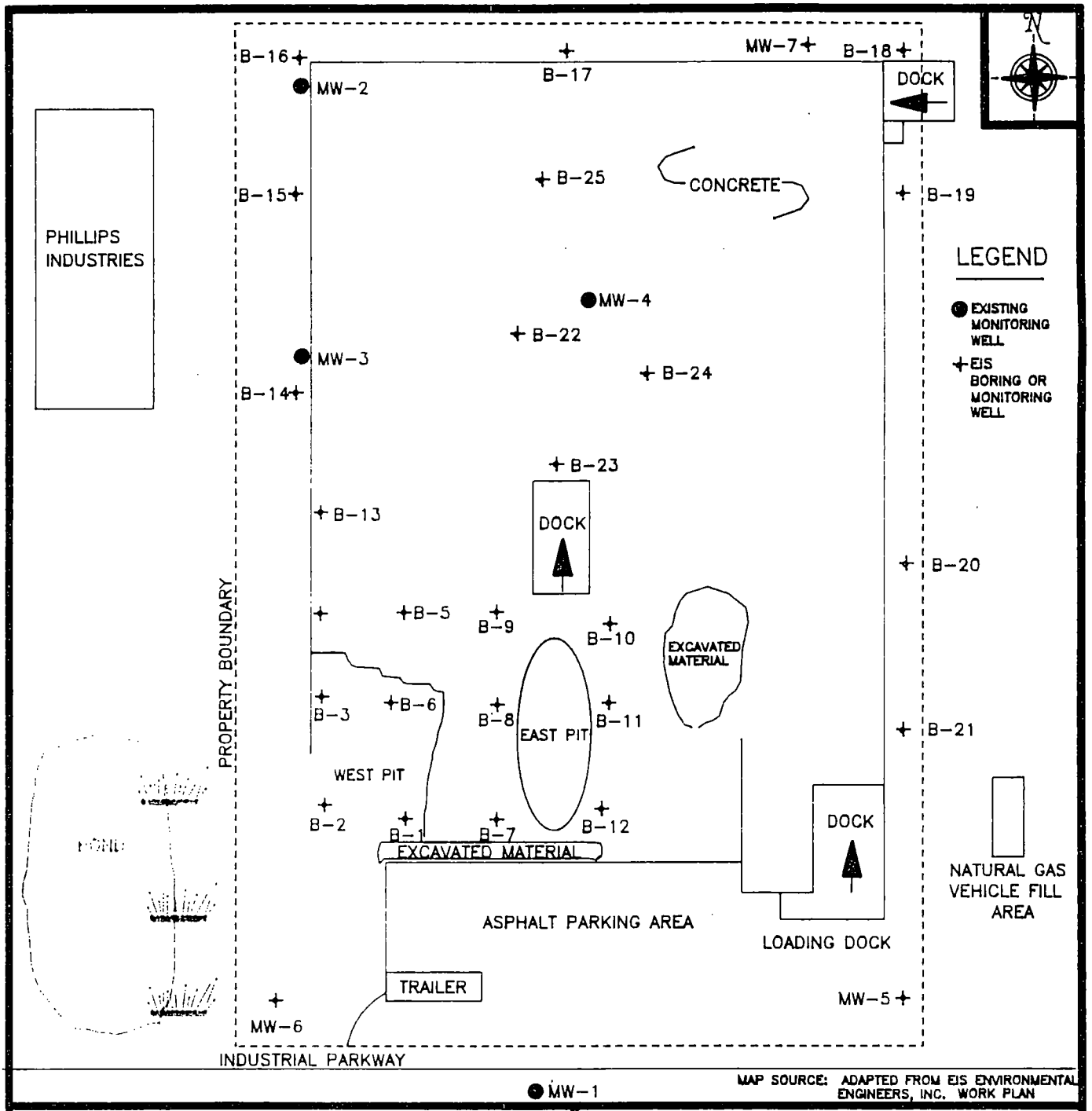

MAP SOURCE: ADAPTED FROM EIS ENVIRONMENTAL ENGINEERS, INC. WORK PLAN

FIGURE 2

SITE MAP

ACCRA-PAC SITE

ELKHART, INDIANA

APPROXIMATE SCALE 1 INCH = 50 FEET

WESTON MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY	DATE	PCS #
J. BINKLEY	05-03-89	2174
APPROVED BY	DATE	TDD #
S. JANSEN	05-03-89	5-8903-15

TABLE 1
ANALYTICAL RESULTS OF TAT SAMPLING[1]
ACCRA-PAC SITE
ELKHART, INDIANA
April 11 - June 2, 1989
(All results in parts per billion)

Sample No.	S-1	S-2	S-3	S-4	S-5	S-6	S-7
Monitoring Well or Borehole No.	MW-5	Field Blank	MW-6	Background	B-2	B-2	Field Blank
Sample Description	Tan Liquid	Deionized Water	Coarse Sand	Coarse Sand	Coarse Sand	Tan Liquid	Deionized Water
Sample Depth (feet)	24.5-25.5		19.5-21.0		20.5-22.0	20.0-21.0	
EIS Head-Space Reading[2] (units)	3.0		5.9		15.0	7.0	
Chloroethane	570	BDL[3]	BDL	BDL	BDL	510	BDL
1,1-Dichloroethene	26*	BDL	BDL	BDL	BDL	73	BDL
1,2-Dichloroethane	16*	BDL	BDL	BDL	BDL	26	BDL
1,1,1-Trichloroethane	1,600	BDL	7	2*	BDL	1,300	BDL
1,2-Dichloroethene	BDL	BDL	3*	BDL	BDL	820	BDL
Trichloroethene	BDL	BDL	2*	BDL	BDL	19	BDL
Xylene (total)	BDL	BDL	BDL	2*	BDL	BDL	BDL
Chlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzene	BDL	BDL	BDL	BDL	BDL	0.9	BDL
Tetrachloroethene	BDL	BDL	BDL	BDL	6	24	BDL
1,1,2-Trichlorethane	BDL	BDL	BDL	BDL	BDL	7	BDL
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	290	BDL
1,1 Dichloroethane	2,700	BDL	9	BDL	BDL	9,300	BDL
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dichlorofluoromethane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichlorofluoromethane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dimethoxymethane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dichlorotrifluoroethane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichlorotrifluoroethane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Octane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Unknown hydrocarbons (total)[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloroform	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Toluene	BDL	BDL	BDL	BDL	5*	3*	2*
Cyclohexane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Unknown Benzene C9H12[4]	BDL	BDL	BDL	BDL	BDL	0.9*	BDL
Unknown	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Carbon Disulfide	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methylene Chloride[5]	150	BDL	6	18	7	18	BDL
Acetone[5]	BDL	BDL	BDL	BDL	21	20	16

[1] Samples analyzed by WESTON Gulf Coast Laboratories, Inc., University Park, Illinois under Analytical Services TDD# 5-8904-L02.
[2] Readings recorded by EIS with Hnu photoionization detector with 11.7 eV probe.
[3] Below Detection Limit.
[4] Estimated, tentatively identified compounds.
[5] Detected in blank.
[6] Not available.
*Estimated concentration.

TABLE 1 (CONTINUED)
ANALYTICAL RESULTS OF TAT SAMPLING[1]
ACCRA-PAC SITE
ELKHART, INDIANA
April 11 - June 2, 1989
(All results in parts per billion)

Sample No.	S-8	S-9	S-10	S-11	S-12	S-13	S-14
Monitoring Well or Borehole No.	B-9	B-9	B-9	Field Blank	B-17	B-17	Field Blank
Sample Description	Tan Liquid	Coarse Sand	Tan Liquid	Deionized Water	Translucent Grey Liq.	Gravel, Med. Sand	Deionized Water
Sample Depth (feet)	18.5-19.5	19.5-21.0	24.5-25.5		20.0-21.0	15.5-16.5	
EIS Head-Space Reading[2] (units)	10.0	4.7	1.9		2.8	3.9	
Chloroethane	230	BDL	59	BDL	81	BDL	BDL
1,1-Dichloroethene	130	BDL	27	BDL	66	BDL	BDL
1,2-Dichloroethane	20	BDL	8	BDL	6	BDL	BDL
1,1,1-Trichloroethane	3,100	77	840	7	1,500	10	BDL
1,2-Dichloroethene	550	BDL	200	BDL	290	BDL	BDL
Trichloroethene	12	2*	2*	BDL	24	BDL	BDL
Xylene (total)	5	BDL	27	BDL	580	12	BDL
Chlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Tetrachloroethene	18	3	58	BDL	100	5*	BDL
1,1,2-Trichlorethane	17	BDL	5	BDL	5	BDL	BDL
Vinyl Chloride	77	BDL	14	BDL	18	BDL	BDL
1,1 Dichloroethane	6,800	19	1,900	9	3,500	5*	BDL
Ethylbenzene	BDL	BDL	6	BDL	68	1*	BDL
Dichlorofluoromethane[4]	100	BDL	BDL	BDL	100	BDL	BDL
Trichlorofluoromethane[4]	100	BDL	BDL	BDL	400	BDL	BDL
Dimethoxymethane[4]	90	BDL	BDL	BDL	50	BDL	BDL
Dichlorotrifluoroethane[4]	30	BDL	BDL	BDL	90	BDL	BDL
Trichlorotrifluoroethane[4]	900	200	BDL	BDL	1,000	BDL	BDL
Octane[4]	10	BDL	BDL	BDL	BDL	BDL	BDL
Unknown hydrocarbons (total)[4]	BDL	770	BDL	BDL	20	BDL	BDL
Chloroform	BDL	BDL	BDL	BDL	0.7*	BDL	BDL
Toluene	BDL	4*	4*	BDL	8	BDL	BDL
Cyclohexane[4]	BDL	BDL	BDL	BDL	30	BDL	BDL
Unknown Benzene C9H12[4]	BDL	BDL	BDL	BDL	10	BDL	BDL
Unknown	BDL	BDL	BDL	BDL	30	10	BDL
Carbon Disulfide	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methylene Chloride[5]	33	8	16	BDL	9	24	11
Acetone[5]	27	54	28	34	5	40	36

[1] Samples analyzed by WESTON Gulf Coast Laboratories, Inc., University Park, Illinois under
[2] Analytical Services TDD# 5-8904-L02.
[3] Readings recorded by EIS with Hnu photoionization detector with 11.7 eV probe.
[4] Below Detection Limit.
[5] Estimated, tentatively identified compounds.
[6] Detected in blank.
Not available.
*Estimated concentration.

TABLE 1 (CONTINUED)
ANALYTICAL RESULTS OF TAT SAMPLING[1]
ACCRA-PAC SITE
ELKHART, INDIANA
April 11 - June 2, 1989
(All results in parts per billion)

Sample No.	S-15	S-16	S-17	S-18
Monitoring Well/Borehole No.	B-19	B-19	B-23	B-23
Sample Description	Solid	Solid	Olive Grey, Coarse to Medium Sand and Gravel	Olive Grey, Coarse to Medium Sand and Gravel
Sample Depth (feet)	18.0-19.5	36.0-37.5	13.5-15.0	16.5-18.0
EIS Head-Space Reading[2] (units)	NA[6]	NA	190.0	60.0
Chloroethane	BDL	BDL	BDL	BDL
1,1-Dichloroethene	BDL	BDL	BDL	BDL
1,2-Dichloroethane	BDL	BDL	BDL	BDL
1,1,1-Trichloroethane	BDL	35	BDL	5*
1,2-Dichloroethene	BDL	BDL	BDL	BDL
Trichloroethene	BDL	BDL	BDL	BDL
Xylene (total)	BDL	9	61	9
Chlorobenzene	BDL	BDL	BDL	BDL
Benzene	BDL	BDL	BDL	BDL
Tetrachloroethene	BDL	17	100	7
1,1,2-Trichlorethane	BDL	BDL	BDL	BDL
Vinyl Chloride	BDL	BDL	BDL	BDL
1,1 Dichloroethane	BDL	17	BDL	BDL
Ethylbenzene	BDL	4*	BDL	BDL
Dichlorofluoromethane[4]	BDL	BDL	BDL	BDL
Trichlorofluoromethane[4]	BDL	BDL	BDL	BDL
Dimethoxymethane[4]	BDL	50	BDL	BDL
Dichlorotrifluoroethane[4]	BDL	BDL	BDL	BDL
Trichlorotrifluoroethane[4]	BDL	BDL	BDL	BDL
Octane[4]	BDL	BDL	BDL	BDL
Unknown hydrocarbons (total)[4]	BDL	BDL	800	BDL
Chloroform	BDL	BDL	BDL	BDL
Toluene	BDL	BDL	BDL	9
Cyclohexane[4]	BDL	BDL	600	BDL
Unknown Benzene C9H12[4]	BDL	BDL	BDL	BDL
Unknown	BDL	10	1,300	BDL
Carbon Disulfide	BDL	1*	BDL	BDL
Methylene Chloride[5]	55	32	4	BDL
Acetone[5]	39	45	21	6

[1] Samples analyzed by WESTON Gulf Coast Laboratories, Inc., University Park, Illinois under Analytical Services TDD# 5-8904-L02.
[2] Readings recorded by EIS with Hnu photoionization detector with 11.7 eV probe.
[3] Below Detection Limit.
[4] Estimated, tentatively identified compounds.
[5] Detected in blank.
[6] Not available.
*Estimated concentration.

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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

MEMO

TO: Kenneth Theisen
U.S. EPA On-Scene Coordinator

DATE: 19 May 1989

FROM: Region V Technical Assistance Team

RE: TDD# 5-8903-15
Accra-Pac Potentially Responsible Party
(PRP) Monitoring
Reporting Period: May 15-19, 1989

Drilling activities resumed at the Accra-Pac site in Elkhart, Indiana, on May 15, 1989. U.S. EPA On-Scene Coordinator Ken Theisen monitored site activities on May 15, 1989, and Technical Assistance Team (TAT) member Pete Guria monitored site activities on May 18, 1989. All observed activities were performed in accordance with the Accra-Pac workplan prepared by EIS for the Warner-Baker Estate.

Borehole No. 12, which is located southeast of the east pit, was initiated on May 11, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 34.5 feet. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 6.2 units at 16.5 to 19.5 feet; 4.8 units at 19.5 to 22.5 feet; and, 4.8 units at 23.5 to 26.0 feet. Lower head-space readings were also recorded throughout the depth of the borehole. Borehole No. 12 was completed and grouted throughout its depth on May 11, 1989.

North of the west pit, borehole No. 13 was initiated on May 11, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 8.0 feet at this location, and soil and water

samples were collected to a depth of 58.0 feet. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 28 units at 0 to 7.0 feet; 8.8 units at 18.0 to 24.0 feet; and, 13 units at 52.0 to 53.5 feet. Lower head-space readings were also recorded throughout the depth of the borehole. Borehole 13 was completed and grouted throughout its depth on May 12, 1989.

Borehole No. 14, which is located along the western edge of the site, was initiated on May 15, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 61.0 feet. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 9.9 units at 13.5 to 15.0 feet; 10.7 units at 27.0 to 28.5 feet; and, 15.2 units at 37.5 to 39.0 feet. Lower head-space readings were recorded throughout the depth of the borehole. Borehole No. 14 was completed and grouted throughout its depth on May 16, 1989.

On May 16, 1989, borehole No. 15 was initiated (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 37.5 feet. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 3.4 units at 19.5 to 21.0 feet; and, 6.1 units at 24.0 to 25.5 feet. Lower head-space readings were also recorded throughout the depth of the borehole. Borehole No. 15 was completed and grouted throughout its depth on May 17, 1989.

Borehole No. 16, which is located in the northwest corner of the site, was initiated on May 17, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 75.0 feet. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 5.6 units at 19.5 to 21.0 feet; 8.0 units at 24.0 to 25.5 feet; 9.8 units at 33.0 to 34.5 feet; 9.5 units at 54.0 to 55.5 feet; and, 25.0 units at 60.0 to 61.5 feet. Lower head-space readings were recorded throughout the depth of the borehole. Borehole No. 16 was completed and grouted throughout its depth on May 18, 1989.

The last borehole initiated during this reporting period, borehole No. 17, was initiated on May 18, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 22.5 feet before the TAT departed the site on May 18, 1989. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 7.0 units at 0 to 1.5 feet; 3.9 units at 15 to 16.5 feet; and, 4.0 units at 21.0 to 22.5 feet. Lower head-space readings were also recorded throughout the depth of the borehole. The TAT collected three samples from borehole No. 17 on May 18, 1989 (Table 1). The samples will be analyzed for volatile organic compounds.

Completion of borehole No. 17 is anticipated on May 22, 1989, and drilling of additional boreholes near the eastern edge of the site is scheduled during the week of May 22-26, 1989.

JSB/dn

att.

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TABLE 1

SAMPLES COLLECTED BY TAT
ACCRA-PAC SITE
ELKHART, INDIANA
May 18, 1989

Sample No.	Sample Location	Sample Description	EIS Head-Space
S-12	BH17L (19.5 - 21.0 ft)	Translucent Grey	2.8 units
S-13	BH17S (15.0 - 16.5 ft)	Gravel, Medium Sand	3.9 units
S-14	Field Blank	Deionized Water	

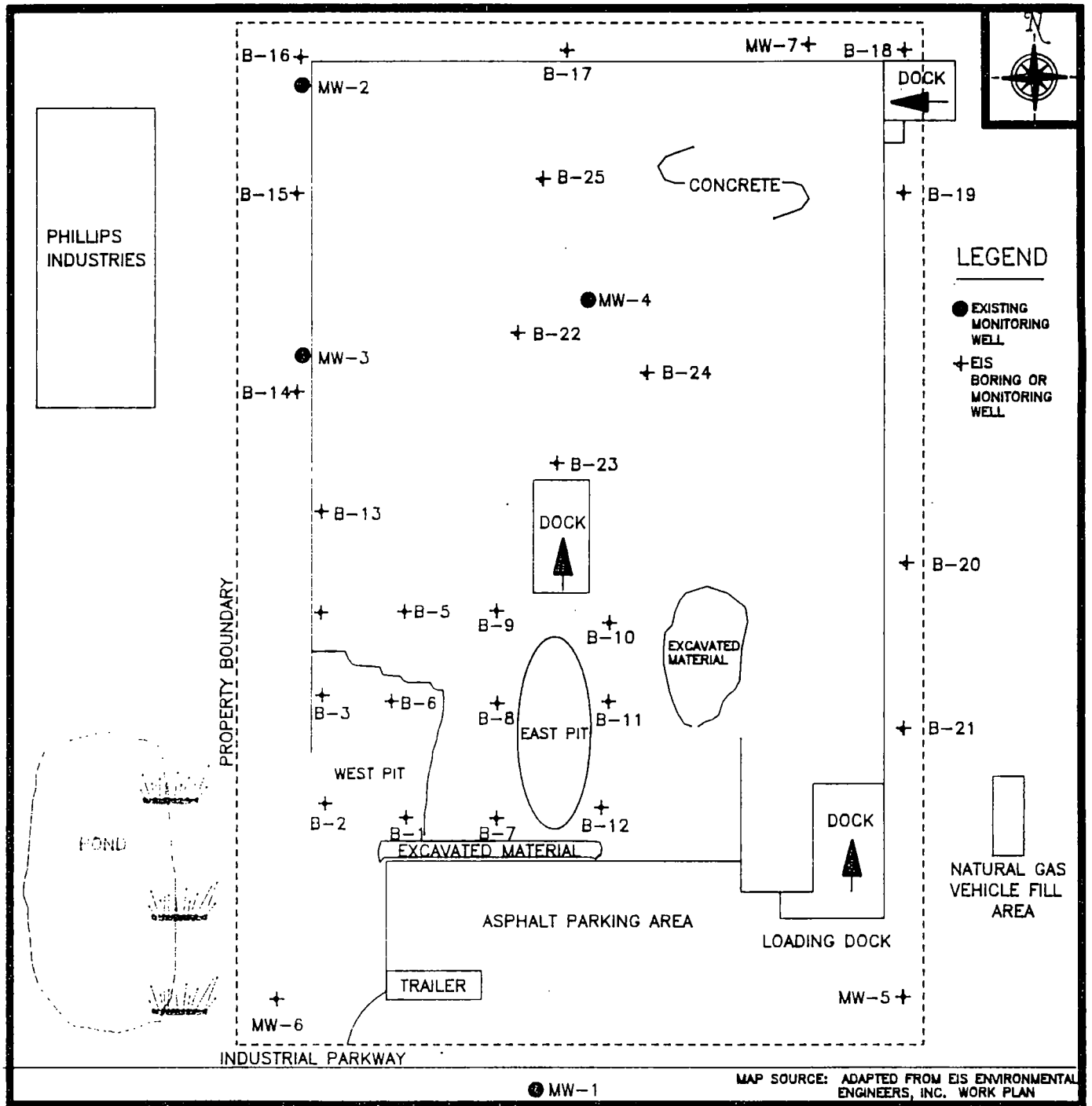

FIGURE 2

SITE MAP

ACCRA-PAC SITE

ELKHART, INDIANA

APPROXIMATE SCALE 1 INCH = 50 FEET

WESTON MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY	DATE	PCS #
J. BINKLEY	05-03-89	2174
APPROVED BY	DATE	TDD #
S. JANSEN	05-03-89	5-8903-15

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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

MEMO

TO: Kenneth Theisen
U.S. EPA On-Scene Coordinator

DATE: 2 June 1989

FROM: Region V Technical Assistance Team

RE: TDD# 5-8903-15
Accra-Pac Potentially Responsible Party
(PRP) Monitoring
Reporting Period: May 22 - June 2, 1989

Drilling activities resumed at the Accra-Pac site in Elkhart, Indiana, on May 22, 1989. U.S. EPA On-Scene Coordinator Ken Theisen monitored site activities on May 23, 1989, and Technical Assistance Team (TAT) member Pete Guria monitored site activities on May 31, and June 2, 1989. Analytical results from TAT samples 8 through 11 (Table 1) were received during this reporting period, and all observed activities were performed in accordance with the Accra-Pac workplan prepared by EIS for the Warner-Baker Estate.

Borehole No. 17 was initiated on May 18, 1989 (previous reporting period), and completed on May 19, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 22.5 feet before the TAT departed the site on May 18, 1989. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 7.0 units at 0 to 1.5 feet; 3.9 units at 15 to 16.5 feet; and, 4.0 units at 21.0 to 22.5 feet. The borehole was completed on May 19, 1989, and additional soil and water and head-space readings were recorded to a depth of 64.5 feet. The highest head-space readings were recorded between 22.5 and 64.5 feet with an Hnu photoionization detector as follows: 8.0 units at 33.0 to 34.5 feet; 8.9 units at 45.0 to 46.5 feet; 8.1 units at 49.5 to 51.0 feet; and, 8.0 units at 54.0 to 55.5 feet. Lower head-space readings were also recorded throughout the depth of the borehole. Borehole No. 17 was grouted throughout its depth on May 19, 1989.

Borehole No. 18 was initiated on May 19, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 49.5 feet. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 4.5 units at 30.0 to 31.5 feet; 4.0 units at 31.5 to 33.0 feet; and, 4.6 units at 36.0 to 37.5 feet. Lower head-space readings were recorded throughout the depth of the borehole. Borehole No. 18 was completed and grouted throughout its depth on May 22, 1989.

Borehole No. 19 was initiated on May 22, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 43.5 feet. Borehole No. 19 is in the vicinity of a suspected historic septic system, and septic-like odors noted above the water table are reflective of this. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 21 units at 7.5 to 9.0 feet; 25 units at 9.0 to 10.5 feet; 19.5 units at 13.5 to 15.0 feet; 15 units at 15.0 to 16.5 feet; 16 units at 18.0 to 19.5 feet; 20 units at 21.0 to 22.5 feet; and, 6.2 units at 30.0 to 31.5 feet. Lower head-space readings were recorded throughout the depth of the borehole. Borehole No. 19 was completed and grouted throughout its depth on May 23, 1989.

Borehole No. 20 was initiated on May 23, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 58.5 feet. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: >150 units at 10.5 to 12.0 feet; 20 units at 15.0 to 16.5 feet; 10.3 units at 21.0 to 22.5 feet; 15 units at 30.0 to 31.5 feet; and, 8.6 units at 36.0 to 37.5 feet. Lower head-space readings were recorded throughout the depth of the borehole. Borehole No. 20 was completed and grouted throughout its depth on May 25, 1989.

Borehole No. 21 was initiated on May 25, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 76.5 feet. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 100 units at 9.0 to 10.5 feet; 85 units at 10.5 to 12.0 feet; 120 units at 14.0 to 15.5 feet; 180 units at 15.5 to 17.0 feet; 100 units at 21.0 to 22.5 feet; and, 66 units at 36.0 to 37.5 feet. Lower head-space readings were recorded

throughout the depth of the borehole. Borehole No. 21 was completed and grouted throughout its depth on May 30, 1989.

Borehole No. 22 was initiated on May 31, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 58.0 feet. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 6.6 units at 15.0 to 16.5 feet; 9.2 units at 21.0 to 22.5 feet; and, 21 units at 43.5 to 45.0 feet. Lower head-space readings were recorded throughout the depth of the borehole. Borehole No. 22 was completed and grouted throughout its depth on June 2, 1989. During drilling activities on June 1, 1989, heavy rainfall forced EIS personnel to conduct head-space readings inside their vehicle. The Hnu photoionization detector readings were erratic on this day because of the high moisture condition.

Borehole No. 23 was initiated on June 2, 1989 (see attached map). The saturated zone was encountered at an approximate depth of 9.0 feet at this location, and soil and water samples were collected to a depth of 27.0 feet before the TAT departed the site at 1530 hours on June 2, 1989. The highest head-space readings at this location were measured with an Hnu photoionization detector and recorded as follows: 34 units at 10.5 to 12.0 feet; 190 units at 13.5 to 15.0 feet; and, 60 units at 16.5 to 18.0 units.

U.S. EPA OSC Ken Theisen collected two soil samples from Borehole No. 19 on May 23, 1989, and TAT member Pete Guria collected two soil samples from borehole No. 23 on June 2, 1989 (Table 2). The samples will be analyzed for volatile organic compounds.

During drilling activities at borehole No. 23, the hydro-punch ground water sampler was damaged; therefore, no water samples were collected from this borehole on June 2, 1989. Drilling activities will resume following repair of the hydro-punch.

Completion of borehole 23 is anticipated on June 5, 1989. Future plans include completion of Borehole No. 24 (north central area of site) and installation of an additional monitoring well in the northeast corner of the site (near borehole No. 18).

JSB/dn

att.

WESTON·SPER

TABLE 2

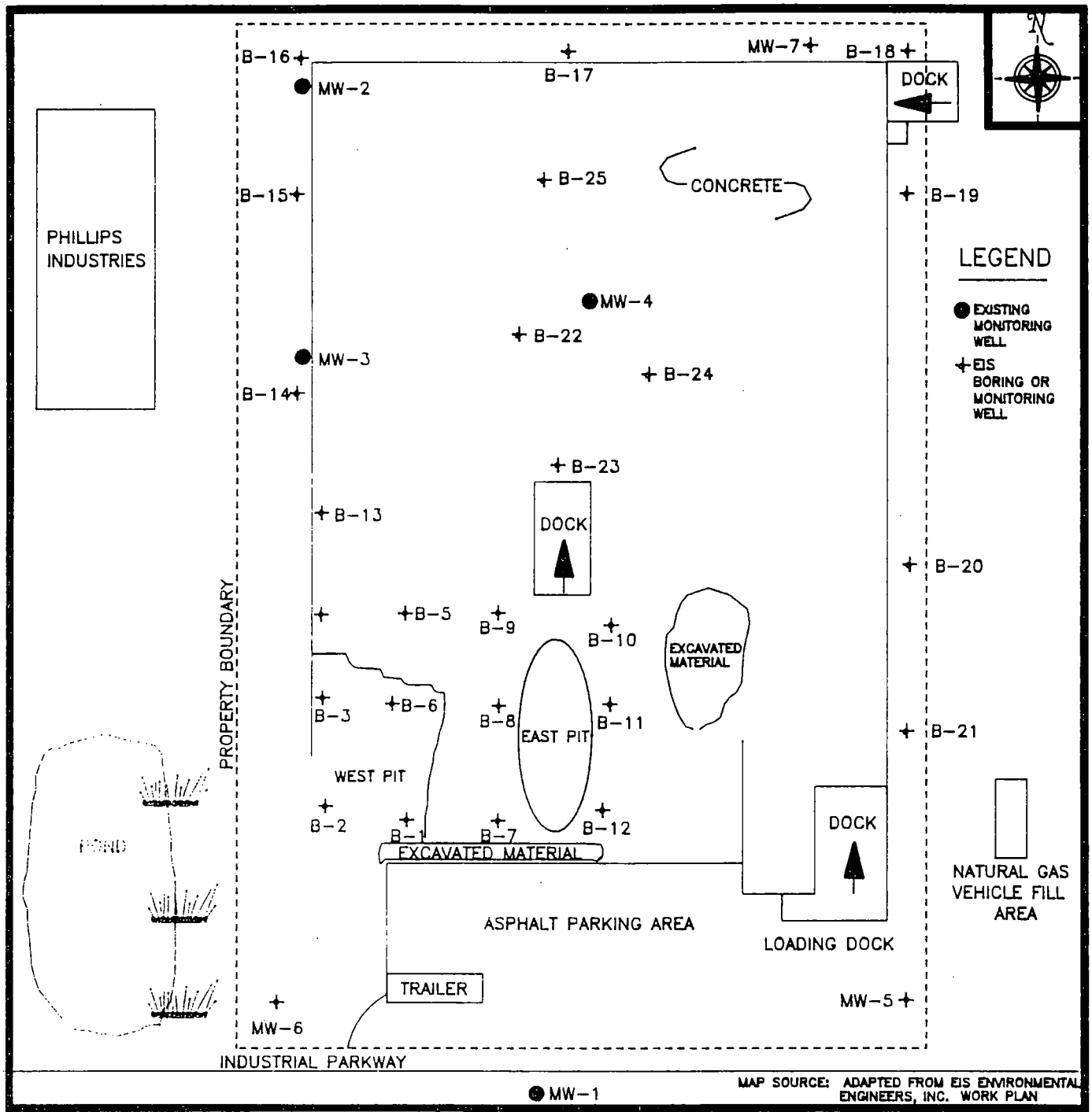
SAMPLES COLLECTED BY TAT
ACCRA-PAC SITE
ELKHART, INDIANA
May 23 and June 2, 1989

Sample No.	Sample Location	Sample Description	EIS Head-Space
15[a]	BH19S (18.0 - 19.5 ft)	NA	NA
16[a]	BH19S (36.0 - 37.5 ft)	NA	NA
17[b]	BH23S (13.5 - 15.0 ft)	Olive grey, coarse to medium sand and gravel	190 units
18[b]	BH23S (16.5 - 18.0 ft)	Olive grey, coarse to medium sand and gravel	60 units

[a]Sample collected May 23, 1989 by U.S. EPA OSC Ken Theisen.

[b]Sample collected June 2, 1989 by TAT.

NA - Not Available.



MAP SOURCE: ADAPTED FROM EIS ENVIRONMENTAL ENGINEERS, INC. WORK PLAN

FIGURE 2

SITE MAP

ACCRA-PAC SITE

ELKHART, INDIANA

APPROXIMATE SCALE 1 INCH = 50 FEET

WESTON MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY	DATE	PCS #
J. BINKLEY	05-03-89	2174
APPROVED BY	DATE	TDD #
S. JANSEN	05-03-89	5-8903-15

TABLE 1
ANALYTICAL RESULTS OF TAT SAMPLING[1]
ACCRA-PAC SITE
ELKHART, INDIANA
April 11 - June 2, 1989
(All results in parts per billion)

Sample No.	S-1	S-2	S-3	S-4	S-5	S-6	S-7
Monitoring Well or Borehole No.	MW-5	Field Blank	MW-6	Background	B-2	B-2	Field Blank
Sample Description	Tan Liquid	Deionized Water	Coarse Sand	Coarse Sand	Coarse Sand	Tan Liquid	Deionized Water
Sample Depth (feet)	24.5-25.5		19.5-21.0		20.5-22.0	20.0-21.0	
EIS Head-Space Reading[2] (units)	3.0		5.9		15.0	7.0	
Chloroethane	570	BDL[3]	BDL	BDL	BDL	510	BDL
1,1-Dichloroethene	26*	BDL	BDL	BDL	BDL	73	BDL
1,2-Dichloroethane	16*	BDL	BDL	BDL	BDL	26	BDL
1,1,1-Trichloroethane	1,600	BDL	7	2*	BDL	1,300	BDL
1,2-Dichloroethene	BDL	BDL	3*	BDL	BDL	820	BDL
Trichloroethene	BDL	BDL	2*	BDL	BDL	19	BDL
Xylene (total)	BDL	BDL	BDL	2*	BDL	BDL	BDL
Chlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzene	BDL	BDL	BDL	BDL	BDL	0.9	BDL
Tetrachloroethene	BDL	BDL	BDL	BDL	6	24	BDL
1,1,2-Trichlorethane	BDL	BDL	BDL	BDL	BDL	7	BDL
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	290	BDL
1,1 Dichloroethane	2,700	BDL	9	BDL	BDL	9,300	BDL
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dichlorofluoromethane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichlorofluoromethane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dimethoxymethane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dichlorotrifluoroethane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichlorotrifluoroethane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Octane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Unknown hydrocarbons (total)[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloroform	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Toluene	BDL	BDL	BDL	BDL	5*	3*	2*
Cyclohexane[4]	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Unknown Benzene C9H12[4]	BDL	BDL	BDL	BDL	BDL	0.9*	BDL
Unknown	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Carbon Disulfide	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methylene Chloride[5]	150	BDL	6	18	7	18	BDL
Acetone[5]	BDL	BDL	BDL	BDL	21	20	16

[1] Samples analyzed by WESTON Gulf Coast Laboratories, Inc., University Park, Illinois under Analytical Services TDD# 5-8904-L02.
[2] Readings recorded by EIS with Hnu photoionization detector with 11.7 eV probe.
[3] Below Detection Limit.
[4] Estimated, tentatively identified compounds.
[5] Detected in blank.
[6] Not available.
*Estimated concentration.

TABLE 1 (CONTINUED)
ANALYTICAL RESULTS OF TAT SAMPLING[1]
ACCRA-PAC SITE
ELKHART, INDIANA
April 11 - June 2, 1989
(All results in parts per billion)

Sample No.	S-8	S-9	S-10	S-11	S-12	S-13	S-14
Monitoring Well or Borehole No.	B-9	B-9	B-9	Field Blank	B-17	B-17	Field Blank
Sample Description	Tan Liquid	Coarse Sand	Tan Liquid	Deionized Water	Translucent Grey Liq.	Gravel, Med. Sand	Deionized Water
Sample Depth (feet)	18.5-19.5	19.5-21.0	24.5-25.5		20.0-21.0	15.5-16.5	
EIS Head-Space Reading[2] (units)	10.0	4.7	1.9		2.8	3.9	
Chloroethane	230	BDL	59	BDL	81	BDL	BDL
1,1-Dichloroethene	130	BDL	27	BDL	66	BDL	BDL
1,2-Dichloroethane	20	BDL	8	BDL	6	BDL	BDL
1,1,1-Trichloroethane	3,100	77	840	7	1,500	10	BDL
1,2-Dichloroethene	550	BDL	200	BDL	290	BDL	BDL
Trichloroethene	12	2*	2*	BDL	24	BDL	BDL
Xylene (total)	5	BDL	27	BDL	580	12	BDL
Chlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Tetrachloroethene	18	3	58	BDL	100	5*	BDL
1,1,2-Trichlorethane	17	BDL	5	BDL	5	BDL	BDL
Vinyl Chloride	77	BDL	14	BDL	18	BDL	BDL
1,1 Dichloroethane	6,800	19	1,900	9	3,500	5*	BDL
Ethylbenzene	BDL	BDL	6	BDL	68	1*	BDL
Dichlorofluoromethane[4]	100	BDL	BDL	BDL	100	BDL	BDL
Trichlorofluoromethane[4]	100	BDL	BDL	BDL	400	BDL	BDL
Dimethoxymethane[4]	90	BDL	BDL	BDL	50	BDL	BDL
Dichlorotrifluoroethane[4]	30	BDL	BDL	BDL	90	BDL	BDL
Trichlorotrifluoroethane[4]	900	200	BDL	BDL	1,000	BDL	BDL
Octane[4]	10	BDL	BDL	BDL	BDL	BDL	BDL
Unknown hydrocarbons (total)[4]	BDL	770	BDL	BDL	20	BDL	BDL
Chloroform	BDL	BDL	BDL	BDL	0.7*	BDL	BDL
Toluene	BDL	4*	4*	BDL	8	BDL	BDL
Cyclohexane[4]	BDL	BDL	BDL	BDL	30	BDL	BDL
Unknown Benzene C9H12[4]	BDL	BDL	BDL	BDL	10	BDL	BDL
Unknown	BDL	BDL	BDL	BDL	30	10	BDL
Carbon Disulfide	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methylene Chloride[5]	33	8	16	BDL	9	24	11
Acetone[5]	27	54	28	34	5	40	36

[1] Samples analyzed by WESTON Gulf Coast Laboratories, Inc., University Park, Illinois under Analytical Services TDD# 5-8904-L02.
[2] Readings recorded by EIS with Hnu photoionization detector with 11.7 eV probe.
[3] Below Detection Limit.
[4] Estimated, tentatively identified compounds.
[5] Detected in blank.
[6] Not available.
*Estimated concentration.

TABLE 1 (CONTINUED)
ANALYTICAL RESULTS OF TAT SAMPLING[1]
ACCRA-PAC SITE
ELKHART, INDIANA
April 11 - June 2, 1989
(All results in parts per billion)

Sample No.	S-15	S-16	S-17	S-18
Monitoring Well/Borehole No.	B-19	B-19	B-23	B-23
Sample Description	Solid	Solid	Olive Grey, Coarse to Medium Sand and Gravel	Olive Grey, Coarse to Medium Sand and Gravel
Sample Depth (feet)	18.0-19.5	36.0-37.5	13.5-15.0	16.5-18.0
EIS Head-Space Reading[2] (units)	NA[6]	NA	190.0	60.0
Chloroethane	BDL	BDL	BDL	BDL
1,1-Dichloroethene	BDL	BDL	BDL	BDL
1,2-Dichloroethane	BDL	BDL	BDL	BDL
1,1,1-Trichloroethane	BDL	35	BDL	5*
1,2-Dichloroethene	BDL	BDL	BDL	BDL
Trichloroethene	BDL	BDL	BDL	BDL
Xylene (total)	BDL	9	61	9
Chlorobenzene	BDL	BDL	BDL	BDL
Benzene	BDL	BDL	BDL	BDL
Tetrachloroethene	BDL	17	100	7
1,1,2-Trichlorethane	BDL	BDL	BDL	BDL
Vinyl Chloride	BDL	BDL	BDL	BDL
1,1 Dichloroethane	BDL	17	BDL	BDL
Ethylbenzene	BDL	4*	BDL	BDL
Dichlorofluoromethane[4]	BDL	BDL	BDL	BDL
Trichlorofluoromethane[4]	BDL	BDL	BDL	BDL
Dimethoxymethane[4]	BDL	50	BDL	BDL
Dichlorotrifluoroethane[4]	BDL	BDL	BDL	BDL
Trichlorotrifluoroethane[4]	BDL	BDL	BDL	BDL
Octane[4]	BDL	BDL	BDL	BDL
Unknown hydrocarbons (total)[4]	BDL	BDL	800	BDL
Chloroform	BDL	BDL	BDL	BDL
Toluene	BDL	BDL	BDL	9
Cyclohexane[4]	BDL	BDL	600	BDL
Unknown Benzene C9H12[4]	BDL	BDL	BDL	BDL
Unknown	BDL	10	1,300	BDL
Carbon Disulfide	BDL	1*	BDL	BDL
Methylene Chloride[5]	55	32	4	BDL
Acetone[5]	39	45	21	6

[1] Samples analyzed by WESTON Gulf Coast Laboratories, Inc., University Park, Illinois under Analytical Services TDD# 5-8904-L02.
[2] Readings recorded by EIS with Hnu photoionization detector with 11.7 eV probe.
[3] Below Detection Limit.
[4] Estimated, tentatively identified compounds.
[5] Detected in blank.
[6] Not available.
*Estimated concentration.